IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

VB Assets, LLC, Plaintiff, v. Amazon.com, Inc.et al., Defendants.	C.A. No. 1:19-cv-01410-MN

PLAINTIFF VB ASSETS RESPONSES TO DEFENDANTS' FIRST SET OF INTERROGATORIES (NOS. 1-16)

Pursuant to Federal Rule of Civil Procedure 33, Plaintiff VB Assets, LLC ("VoiceBox"), through counsel, objects and responds to Defendants Amazon.com, Inc.; Amazon.com LLC; Amazon Web Services, Inc.; A2Z Development Center, Inc. d/b/a Lab126; Rawles LLC; AMZN Mobile LLC; AMZN Mobile 2 LLC; Amazon.com Services, Inc. f/k/a Amazon Fulfillment Services, Inc.; and Amazon Digital Services LLC's (collectively "Defendants'" or "Amazon's") First Set of Interrogatories Nos. 1-16.

PRELIMINARY STATEMENT

The following responses are made solely for the purpose of, and in relation to, this action. Each response is provided subject to all appropriate objections (including, without limitation, objections concerning competency, relevancy, materiality, propriety, and admissibility) that would require the exclusion of any statement contained herein if the statement were made by a witness present and testifying in court. All such objections and grounds therefore are reserved and may be interposed at the time of trial.

The following responses are based on the facts and information presently known and available to VoiceBox. The responses refer only to those contentions that have been asserted to

date, based on the facts now known to VoiceBox. Discovery, investigation, research, and analysis are ongoing in this case and may disclose the existence of additional facts, add meaning to known facts, establish entirely new factual conclusions or legal contentions, or possibly lead to additions, variations, and changes to these responses. VoiceBox reserves the right to change or supplement these responses as additional facts are discovered, revealed, recalled, or otherwise ascertained.

GENERAL OBJECTIONS

In addition to any specifically stated objections, each of VoiceBox's responses herein is subject to and incorporates the following general objections:

1. VoiceBox objects to each of the interrogatories, instructions, and the definitions to the extent they purport to impose obligations greater or more extensive than those required by the Federal Rules of Civil Procedure, the Local Rules of the United States District Court for the District of Delaware, or other applicable law.

2. VoiceBox objects to each of the interrogatories, instructions, and definitions to the extent they purport to request information that cannot be found in the course of a reasonable search.

3. VoiceBox's partial response to any interrogatory is not a waiver of its objection or right to object to the interrogatory, or any part thereof, or to any additional, supplemental or further interrogatory or part thereof, but is instead offered in an effort to resolve a potential discovery dispute.

4. VoiceBox objects to each of the interrogatories to the extent it seeks information that is neither relevant to any claim or defense raised in this litigation, nor proportional to the needs of the case.

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5. VoiceBox objects to each of the interrogatories to the extent it is vague or ambiguous.

6. VoiceBox objects to each of the interrogatories to the extent it is unreasonably cumulative or duplicative of other discovery requests, or seeks information that is obtainable from some other source that is more convenient, less burdensome, less expensive, or it is as easily accessible to Amazon as it is to VoiceBox.

7. VoiceBox objects to each of the interrogatories to the extent it is overly broad, fails to reasonably identify the information sought, is unduly burdensome, or is posed for improper purposes, including, without limitation, embarrassment, undue annoyance, harassment, oppression, delay, or to increase the expense of litigation or to the extent it calls for a legal conclusion or opinion.

8. VoiceBox objects to each of the interrogatories to the extent it seeks information for which the burden or expense of obtaining and disclosing outweighs its likely benefit in resolving the issues of this action.

9. VoiceBox objects to each of the interrogatories to the extent it fails to describe with reasonable particularity the information requested.

10. To the extent that any interrogatory may be construed as calling for information which is subject to a claim of privilege, including, without limitation, the attorney-client privilege and attorney work product doctrine, VoiceBox hereby claims such privilege and objects to the disclosure of the information. Such information as may hereafter be provided in response to the Interrogatory should not include any information subject to such privileges and doctrines, but the inadvertent disclosure of privileged information shall not constitute a waiver of any applicable privilege.

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11. VoiceBox objects to each interrogatory to the extent that it seeks confidential, commercially sensitive, trade secret, and/or proprietary information of a non-party or information covered by a confidentiality agreement, or information that is otherwise protected from disclosure pursuant to Rule 26(c)(1)(G) of the Federal Rules of Civil Procedure or Rule 501 of the Federal Rules of Evidence. VoiceBox will not produce such information unless the non-party agrees to the terms of the protective order entered in this case or consents in writing to the disclosure of that information to Amazon.

12. VoiceBox objects to each of the interrogatories to the extent it seeks information that is not in VoiceBox's possession, custody, or control.

13. VoiceBox objects generally to the interrogatories to the extent that they prematurely call for discovery concerning, among other things, facts and contentions relating to infringement, validity, other claims and defenses, and expert testimony before they are due under the Scheduling Order in this case. *See* D.I. 32. Pursuant to this objection and other objections set forth herein, VoiceBox will respond to these interrogatories under the case schedule.

14. VoiceBox objects to any interrogatory that seeks information, documents or things subject to confidentiality agreements, protective orders, and/or any other obligation pursuant to which VoiceBox is required to protect and/or maintain the confidentiality of any third party's documents. Should an interrogatory call for such information, documents or things, VoiceBox will act reasonably to seek the consent of the third party to produce the information.

OBJECTIONS TO DEFINITIONS

1. VoiceBox objects to Amazon's definition of "plaintiff," "you," "your," and "VoiceBox" as overly broad and unduly burdensome. For purposes of these interrogatories,

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reference to "plaintiff," "you," "your," and "VoiceBox" shall refer to plaintiff VB Assets, LLC only.

2. VoiceBox objects to Amazon's use and definition of the term "related patents/applications" as inaccurate, vague, ambiguous, overly broad, unduly burdensome, irrelevant, not proportional to the needs of the case, and as seeking a legal conclusion by purporting to include all patents, patent applications and/or patent publications concerning subject matter similar to the claimed subject matter of the patents-in-suit. VoiceBox will limit its responses to the patents-in-suit.

3. VoiceBox objects to Amazon's use and definition of the term "prior art" as inaccurate, overly broad, and unduly burdensome, vague and ambiguous, and as seeking a legal conclusion, including to the extent it includes things or acts that are not prior art under 35 U.S.C. §§ 102 or 103.

4. VoiceBox objects to Amazon's use and definition of the term "document" as vague and ambiguous, overly broad and unduly burdensome, and to the extent it purports to impose requirements or obligations on VoiceBox beyond those set forth in the Federal Rules of Civil Procedure, the Court's Scheduling Order (D.I. 32 ¶ 1), and the Court's Default Standard for Discovery.

5. VoiceBox objects to Amazon's use and definition of the term "all documents" as overly broad and unduly burdensome, and to the extent it purports to impose requirements or obligations on VoiceBox beyond those set forth in the Federal Rules of Civil Procedure, the Court's Scheduling Order (D.I. 32 ¶ 1), and the Court's Default Standard for Discovery.

6. VoiceBox objects to Amazon's use and definition of the term "communication" as overly broad and unduly burdensome, and to the extent it purports to impose requirements or

obligations on VoiceBox beyond those set forth in the Federal Rules of Civil Procedure, the Court's Scheduling Order (D.I. 32 ¶ 1), and the Court's Default Standard for Discovery.

7. VoiceBox objects to Amazon's use and definition of the terms "relate to," "relates to," "related to," "relating to," "referring to," "pertaining to," "pertain to," and "regarding" and all interrogatories incorporating these terms, as overly broad, vague, ambiguous, unintelligible, requiring subjective judgment on the part of VoiceBox and/or its attorneys, and calling for conclusions or opinions of counsel in violation of the attorney work product doctrine.

8. VoiceBox objects to the definition of "identify" as overly broad, unduly burdensome, and calling for the provision of information that is in the public domain and/or is equally available to Amazon.

OBJECTIONS TO INSTRUCTIONS

1. VoiceBox objects to the instructions accompanying Amazon's interrogatories to the extent that such instructions are not consistent with the provisions of the Federal Rules of Civil Procedure, Local Rules of the United States District Court for the District of Delaware, or other applicable law, or to the extent that the instructions purport to require VoiceBox to take actions or provide information not required or which exceed the scope of the Federal Rules of Civil Procedure, Local Rules of the United States District Court for the District of Delaware, or other applicable law.

2. VoiceBox objects to Instruction No. 2 to the extent it purports to impose requirements or obligations on VoiceBox beyond those set forth in the Federal Rules of Civil Procedure, the Court's Scheduling Order (D.I. 32 ¶ 1), and the Court's Default Standard for Discovery, including by purporting to require information outside the possession, custody, or control of VoiceBox or that cannot be found in the course of a reasonable search.

3. VoiceBox objects to Instruction No. 3 to the extent Amazon purports to place any burden on VoiceBox to construe any vague or ambiguous term Amazon chose to use in its interrogatories.

4. VoiceBox objects to Instruction No. 4 to the extent Amazon purports to place any burden on VoiceBox beyond the requirements of Rule 33(d).

5. VoiceBox objects to Instruction No. 5 to the extent Amazon purports to place any burden on VoiceBox beyond the requirements of Rule 26(b)(5).

6. VoiceBox objects to Instruction Nos. 6–8 to the extent that the instructions purport to require VoiceBox to take actions or provide information not required or which exceed the scope of the Federal Rules of Civil Procedure, Local Rules of the United States District Court for the District of Delaware, or other applicable law.

OBJECTIONS AND RESPONSES

INTERROGATORY NO. 1:

Describe each product, technology, and/or service that each of VoiceBox, VB Assets, LLC, VoiceBox Technologies, Inc., VoiceBox Technologies, Corp. and/or any named inventor developed, designed, tested, deployed, promoted, demonstrated, licensed (whether for a fee or for free), offered for license (whether consummated or not), sold, or offered for sale since formation of that company until the filing of the complaint in this action, including without limitation those alleged in paragraphs 1 and 19-24 of your first amended complaint (D.I. 22), including the dates of any such development, design, test, deployment, promotion, offer for license, license, offer for sale, or sale, all facts surrounding any such development, design, test, deployment, promotion, offer for license, license, offer for sale, or sale, the knowledgeable people about any such development, design, test, deployment, promotion, offer for license, license, offer for sale, or sale, the features and functionality of any such product, technology, or

service, all public disclosures related to such product, technology, or service, and all documents related to the foregoing.

RESPONSE TO INTERROGATORY NO. 1:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is overly broad and unduly burdensome to the extent that it seeks information that is not related to any claim or defense in this action and is not proportional to the needs of the case. In particular, VoiceBox objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests information about "each product, technology, and/or service" of "each of [] VoiceBox Technologies, Inc., VoiceBox Technologies, Corp. and/or any named inventor [] since formation of that company until the filing of the complaint in this action." VoiceBox further objects that this interrogatory is vague and ambiguous, overly broad, not relevant to the claims and defenses at issue in this case, not proportional to the needs of the case, and compound to the extent that it requests "the dates of any such development, design, test, deployment, promotion, offer for license, license, offer for sale, or sale" and "all facts surrounding any such development, design, test, deployment, promotion, offer for license, license, offer for sale, or sale" and "the knowledgeable people about any such development, design, test, deployment, promotion, offer for license, license, offer for sale, or sale, the features and functionality of any such product, technology, or service" and "all public disclosures related to such product, technology, or service, and all documents related to the foregoing." VoiceBox further objects to this interrogatory to the extent it seeks information that is not in VoiceBox's possession, custody, or control. VoiceBox further objects to this interrogatory to the extent that it seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox

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responds as follows:

In accordance with Federal Rule of Civil Procedure 33(d), VoiceBox refers to the following documents because the burden of deriving or ascertaining the answer to this interrogatory from these produced documents is substantially the same for Amazon as for VoiceBox: VoiceBox-0000001–0004642. In accordance with Federal Rule of Civil Procedure 33(d), VoiceBox will produce additional documents underlying the allegations in paragraphs 1 and 19-24 of the first amended complaint (D.I. 22) from which the burden of deriving or ascertaining information responsive to this interrogatory is substantially the same for Amazon as for VoiceBox.

INTERROGATORY NO. 2:

Identify all products, technologies, or services that you contend practice or embody (or have at any time practiced or embodied) any alleged invention described or claimed in each of the patents-in-suit, including without limitation any allegedly practicing products and/or services of any named inventor, VoiceBox, VB Assets, LLC, VoiceBox Technologies, Inc., VoiceBox Technologies, Corp., or any of their licensees, assignees, subsidiaries, affiliates, predecessors, or successors-in-interest.

RESPONSE TO INTERROGATORY NO. 2:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is overly broad and unduly burdensome to the extent that it seeks information that is not related to any claim or defense in this action and is not proportional to the needs of the case. In particular, VoiceBox objects that this interrogatory is vague and ambiguous, overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests information related to all products, technologies, or services that practice or embody (or have at any time practiced or embodied) any alleged invention described or claimed in each of the patents-in-suit. VoiceBox further objects that this interrogatory is vague and ambiguous, overly broad, not relevant to the

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claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests information related to "products and/or services of any named inventor, [] VoiceBox Technologies, Inc., VoiceBox Technologies, Corp." and "any of their licensees, assignees, subsidiaries, affiliates, predecessors, or successors-in-interest." VoiceBox further objects to this interrogatory to the extent it seeks information that is not in VoiceBox's possession, custody, or control. VoiceBox further objects to this interrogatory as premature to the extent it calls for information that is the subject of expert discovery. VoiceBox further objects to this interrogatory to the extent that it seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

VoiceBox is currently unaware of any products, technologies, or services of VoiceBox or its licensees that practice or embody any claim of the patents-in-suit. VoiceBox's investigation is ongoing and it reserves the right to supplement its response to this Interrogatory.

INTERROGATORY NO. 3:

For each asserted claim of the patents-in-suit, describe in detail the circumstances of its invention, including without limitation: the earliest claimed date(s) of conception and reduction to practice, when and where such conception and reduction to practice occurred, all persons involved in or otherwise having knowledge of such conception and reduction to practice, the nature and extent of each individual's involvement in and their relative contribution to such activities, and the identification of all documents and tangible things relating to the earliest claimed date(s) of conception and reduction to practice. If you contend the inventors were diligent in reducing such claim to practice, include the full factual and legal basis for that contention, including any basis you contend excuses any period(s) of non-diligence.

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RESPONSE TO INTERROGATORY NO. 3:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is overly broad and unduly burdensome to the extent that it seeks information that is not related to any claim or defense in this action and is not proportional to the needs of the case. In particular, VoiceBox objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, not proportional to the needs of the case, and compound to the extent that it requests information about "when and where such conception and reduction to practice occurred" and "all persons involved in or otherwise having knowledge of such conception and reduction to practice, the nature and extent of each individual's involvement in and their relative contribution to such activities" and "the identification of all documents and tangible things relating to the earliest claimed date(s) of conception and reduction to practice." VoiceBox further objects to the phrase "the circumstances of its invention" as vague and ambiguous. VoiceBox further objects to this interrogatory as vague and ambiguous, overbroad and unduly burdensome, to the extent it seeks information not relevant to any claim or defense in this action, immaterial, and not proportional to the needs of the case, particularly to the extent it seeks information relevant to "diligence" or "excuses any period(s) of non-diligence." To the extent diligence becomes relevant in this case, diligence is only relevant from a time just before the effective date of an identified prior art reference. VoiceBox further objects to this interrogatory as seeking a legal conclusion. VoiceBox further objects to this interrogatory to the extent that it seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

VoiceBox's investigation is ongoing, but at the present time, VoiceBox contends that each asserted claim of the patents-in-suit was conceived and reduced to practice no later than the

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earliest effective filing date for each patent, including any provisional applications.

INTERROGATORY NO. 4:

For each asserted claim of the patents-in-suit, describe in detail all facts and circumstances relating to the first written description, offer for sale, sale, public disclosure, public use, or disclosure to any person other than a named inventor of the claimed invention, including, without limitation, the identity of the person involved in each such event, the date on which each such event occurred, and the identification of each document that reflects or relates to such facts and circumstances.

RESPONSE TO INTERROGATORY NO. 4:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is overly broad and unduly burdensome to the extent that it seeks information that is not related to any claim or defense in this action and is not proportional to the needs of the case. In particular, VoiceBox objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests "all facts and circumstances relating to the first written description, offer for sale, sale, public disclosure, public use, or disclosure to any person other than a named inventor of the claimed invention." VoiceBox further objects to this interrogatory as vague and ambiguous and seeking a legal conclusion as to the terms "first written description, offer for sale, sale, public disclosure, public use." VoiceBox further objects to this interrogatory to the extent that it seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

In accordance with Federal Rule of Civil Procedure 33(d), VoiceBox refers to the following documents because the burden of deriving or ascertaining the answer to this

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interrogatory from these produced documents is substantially the same for Amazon as for VoiceBox: VoiceBox-0000001–0004642.

INTERROGATORY NO. 5:

If you contend that any of the patents-in-suit or any of the asserted claims is entitled to a priority date prior to the filing date of that patent, state all factual and legal bases for that contention, including identifying which claims and patents you contend are entitled to which priority dates, the written description that supports such claim of priority, and which documents support your contentions.

RESPONSE TO INTERROGATORY NO. 5:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is overly broad and unduly burdensome to the extent that it seeks information that is not related to any claim or defense in this action and is not proportional to the needs of the case. In particular, VoiceBox objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests "all factual and legal bases for that contention." VoiceBox further objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, not proportional to the needs of the case, and calling for a legal conclusion to the extent that it requests an identification of "which claims and patents . . . are entitled to which priority dates" and "the written description that supports such claim of priority." VoiceBox further objects to this interrogatory to the extent that it seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

Each asserted claim of each patent-in-suit is entitled to a priority date of no later than the earliest effective filing date for the respective patent, including any provisional

applications. VoiceBox identifies the following documents as relevant to this interrogatory: VoiceBox-0000001–0004642. VoiceBox's investigation is ongoing and it reserves the right to supplement its response to this Interrogatory.

INTERROGATORY NO. 6:

If you contend that there exist any secondary considerations or objective evidence of non-obviousness with respect to each of the claimed inventions of the patents-in-suit, state in detail the full factual and legal basis for your contention, including identifying all persons and documents supporting this contention. Your answer should also identify and explain any nexus you contend exists between the claimed invention(s) and any evidence of secondary considerations or objective evidence of non-obviousness, including without limitation a claim-by-claim description of the connection between each of the asserted claims and any evidence of commercial success.

RESPONSE TO INTERROGATORY NO. 6:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is overly broad and unduly burdensome to the extent that it seeks information that is not related to any claim or defense in this action and is not proportional to the needs of the case. In particular, VoiceBox objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests "all factual and legal bases for that contention." VoiceBox further objects that this interrogatory is overly broad and unduly burdensome to the extent that it seeks an identification and explanation of "any nexus . . . between the claimed invention(s) and any evidence of secondary considerations or objective evidence of non-obviousness, including without limitation a claim-by-claim description of the connection between each of the asserted claims and any evidence of commercial success." VoiceBox further objects to this interrogatory as premature to the extent it calls for information that will be the subject of expert discovery. VoiceBox further objects to this interrogatory to the extent that it

seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

Pursuant to 35 U.S.C. § 282, the patents-in-suit are presumed valid and Amazon bears the burden of proving, by clear and convincing evidence, that each of the asserted claims of the patents-in-suit is invalid, which it has not done. Furthermore, various objective indicia evidence that the patents-in-suit were non-obvious. For example, the commercial success of Amazon's accused products and Amazon's copying demonstrates objective evidence of nonobviousness of the patents-in-suit. As set forth in more detail below, the patents-in-suit also: satisfied a long-felt, but unmet need; addressed the failure of others; and recognized a problem in conventional systems.

The '681 and '049 Patents. Voice user interface systems in existence before the inventions of the '681 and '049 patents were typically of the "Command and Control" type. Such systems used verbal menus to restrict information that a person can provide at a given point. For example, the voice system would present the list of available options either verbally and/or on a screen. The user could then respond by speaking the menu item. Such a system could include numerous menus that the user would have to get through in order to convey the desired information to the system and/or to cause the system to take the desired action.

The inventors recognized a significant problem with the Command and Control systems in that users would have to memorize exact words and phrases in order to interact with the system. This required significant learning because the user had to know which words and phrases to use in order to make a request of a Command and Control voice user interface system.

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Additionally, the process of stepping through menus could be time-consuming and, in some cases might dissuade a user from utilizing the voice-based system.

To overcome the shortcoming of prior art systems, the inventors provided a solution that used an "Automatic Speech Recognizer" (or ASR) to generate a preliminary interpretation and provide that preliminary interpretation to a "conversational speech engine" for further processing. The conversational speech engine could be implemented locally on a user device or remotely on a server. In certain embodiments, the conversational speech engine included a conversational language processor, voice search engine / free form voice search module with context domain agents, and a context determination process. The conversational speech engine communicates with databases to generate an adaptive conversational response.

Through the use of a conversational speech engine, the '681 and '049 patents advantageously rely on conversational responses which, in some embodiments, use short-term and long-term shared knowledge about user utterances to determine a context for the request, infer additional information about a request, and provide an adaptive conversational response.

The inventors were thereby able to provide a solution addressing the problems of the prior art. For example, the innovations in the '681 and '049 patents allowed a user to converse naturally with a voice user interface system instead of "dumbing down" their requests to match the simple sets of instructions that existing Command and Control systems required.

The '681 patent describes and claims a system for providing a cooperative conversational voice user interface with the above-described conversational speech engine. The conversational speech engine has a processor that accumulates both short-term and long-term shared knowledge. The short-term shared knowledge includes knowledge about an utterance received

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during a current conversation while the long-term shared knowledge includes knowledge about one or more past conversations with the user.

The known prior art in the field of voice user interfaces neither taught accumulating short-term and long-term shared knowledge nor expressed any appreciation for the substantial advantages associated with utilizing this shared knowledge for various purposes in a conversational speech engine. Such uses include to identify context, infer additional information about an utterance that contains insufficient information to complete a request, establish an intended meaning for an utterance within the context based on the additional information inferred about the utterance, and generate a response based on the intended meaning established within the identified context. In this regard, accumulating and using both short-term and long-term shared knowledge stands in sharp contrast to the conventional and routine approach of command and control systems that require a user to use rigid menus to establish context before making a request.

During prosecution of the ’681 patent, the examiner rejected numerous application claims as being unpatentable over Kargman (US 2005/0015256). In response, the inventors’ prosecution counsel argued as follows:

> More particularly, Kargman fails to disclose, teach, or suggest at least the combination of features that include “receiving an utterance at a voice input device, wherein the voice input device receives the utterance in a current conversation with a user” and ***“determining an intended meaning for the utterance,”*** wherein a conversational speech engine determines the intended meaning for the utterance from short-term shared knowledge about the current conversation and long-term shared knowledge about the user, including one or more past conversations with the user, as recited in amended independent claim 1, for example. The Examiner alleges that Kargman teaches a system that can generate responses to utterances received from a user based on shared knowledge about a current conversation and/or one or more past conversations. Office Action, pages 6-8.

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Applicants disagree with the Examiner's assessment for at least the reason that although Kargman generally describes a system that can "generate an initial or supplemental prompt which is individually tailored for [a] particular customer" and "tailor the voice recognition 'grammar' to that particular customer" based on the customer's order history (¶ [0050]), suggesting certain words or tailoring voice recognition components to improve the likelihood that a particular utterance will be correctly recognized does not fairly disclose, teach, or suggest determining an "intended meaning" for the utterance. In particular, Applicants' disclosure includes various passages that describe techniques that may be used to determine or otherwise establish an intended meaning for an utterance, including a conversational speech engine "that determines one or more contexts for a request to establish meaning within a conversation" (¶ [034]). For example, the word "traffic" may have distinct meanings in different contexts (e.g., the "Traffic" rock and roll band in a music context, the film "Traffic" in a movie context, road conditions in a navigation context, etc.) (¶ [034]).

In contrast, the passages in Kargman that the Examiner cites as allegedly teaching features that relate to determining an intended meaning for an utterance only generally relate to providing prompts to suggest certain choices or tailoring voice recognition grammars to prevent mismatches when recognizing an utterance from a user. However, pre-configuring a voice recognition system based on a history associated with a user does not disclose, teach, or suggest determining "an intended meaning" for what the user then says in an utterance. In other words, where amended independent claim 1 recites "determining ***an intended meaning for the utterance***" from short-term shared knowledge and long-term shared knowledge, the short-term shared knowledge and long-term shared knowledge provide "profiles [that] may be particularly meaningful when attempting to disambiguate between contexts where a word has different meanings in different contexts" (¶ [037]). On the other hand, the voice recognition techniques described in Kargman only relate to making statistical guesses or suggestions to avoid potential "mismatches," which does not disclose, teach, or suggest disambiguating, establishing, or otherwise determining the intended meaning that the user had in speaking any words recognized in the utterance.

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> Accordingly, for at least the reason that Kargman does not describe or otherwise indicate that the system described therein can distinguish or otherwise determine an intended meaning underlying an utterance that a user speaks in a current conversation, much less determining an intended meaning for an utterance from short-term shared knowledge about the current conversation and long-term shared knowledge about past conversations with the user, Kargman fails to disclose, teach, or suggest at least the foregoing features recited in amended independent claim 1. The rejection is therefore improper and must be withdrawn.

Based, at least in part, on the inventors' arguments, the USPTO eventually granted the claims of the '681 patent finding them novel and non-obvious over Kargman and other cited references. As indicated, a key distinction—which the examiner eventually agreed with—is that Kargman lacked short-term shared knowledge about the current conversation and long-term shared knowledge about past conversations with the user.

The '049 patent (which stems from the same original patent application as the '681 patent) describes and claims a system for facilitating conversational-based responses that uses processors programmed to identify a first model that includes short-term knowledge about the conversation, wherein the short-term knowledge is based on one or more prior natural language utterances received during the conversation. The system identifies context information for the natural language utterance based on the short-term knowledge and determines an interpretation of the natural language utterance based on the context information.

The known prior art in the field of voice user interfaces neither taught identifying a first model that includes short-term knowledge about the conversation nor expressed any appreciation for the substantial advantages associated with utilizing this model for various purposes in a conversational speech engine. Such uses include to identify context information, determine an interpretation of a natural language utterance, and generate a response. In this regard, identifying a first model that includes short-term knowledge about the conversation in sharp contrast to the

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conventional and routine approach of command and control systems that require a user to use rigid menus to establish context before making a request.

During prosecution of the ’049 patent, the examiner determined that numerous application claims were directed to allowable subject matter. According to the examiner:

> The prior art of record includes various utterances which teach determining context/topics/domains based on conversation/discourse/dialog history but does not teach where short-term knowledge is based on the conversation history data and where the short-term knowledge is included in a model (in combination with everything else in the independent claims).

Once again, the USPTO recognized that the prior art “does not teach where short-term knowledge is based on the conversation history data and where the short-term knowledge is included in a model.”

Thus, with respect to both the ’681 and ’049 patents, the inventors overcame problems with Command and Control systems such as menu driven dead-ends when a request is ambiguous. Such problems arose because the Command and Control systems attempted to assign meaning to every component of an utterance and provided no option for dialogue to satisfy mutual goals. This increased the error rate due to numerous potential meanings that could result from using all parts of an utterance. The inventions of the ’681 and ’049 patents allow a user to directly request what they want from the system in a normal, conversational fashion. The invention’s conversational speech engine and conversational-based responses allowed users to engage the systems in a productive, cooperative dialogue to resolve requests.

The inventors also realized that the Command and Control systems considered each utterance in isolation and were prone to repeatedly misinterpret human speech, even if such

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misinterpretation could be avoided based on knowledge of the user and/or the context for the speech. The innovative systems claimed in the ’681 and ’049 patents used shared knowledge based on previous utterances to identify a context and interpret the user’s utterance in that context. In some embodiments the context could be used to infer a request based on a model of human speech or to infer an intended request from an incomplete or ambiguous request. Such systems advantageously allow rapid context switching in ways that are intuitive to the user.

In addition, the use of “populating a short-term context stack” (’681 patent, claim 3) addressed unmet needs in conventional systems. A context stack was generally unheard of in voice-based computer systems. Further, the concept of “classifying one or more of the utterance or the current conversation into a conversation type based on one or more of the identified conversational goal” (’681 patent, claim 5) was contrary to conventional wisdom which, at the time, focused on improving the usability of the menus and enhancing the overall speed of the Command and Control system. Moreover, the “conversational speech engine” (’681 patent, claim 5) represented a specific enhancement to the overall voice-based computerized system which could, among other things, establish an intended meaning based on the type of conversation. In contrast, the conventional approach was to focus on more accurately understanding particular words and narrowing the number of words likely to be spoken.

Further, “accumulating long-term shared knowledge about the user” including knowledge “about one or more past conversations with the user” or “context information” also helped address problems in the art. As explained above, a conventional approach was to direct the end-user to make utterances based on a defined list of potential utterances according to a Command and Control system. Such systems did not adapt based on conversations with the users and/or other available information about the user or the context surrounding the conversation.

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Using the combination of both short-term and long-term shared knowledge as recited in, for example, claim 1 of the ’681 patent and claim 4 of the ’049 patent also helped address an unmet need in conventional systems. In other words, the combination of both short-term and long-term shared knowledge provided the substantial benefit of improving a computer system to rely on and integrate these two distinct forms of information.

Additionally, “generating a response to the utterance” where the “speech engine grammatically or syntactically adapts the response based on the intended meaning established within the identified context” or, alternatively, “generating… based on the interpretation of the natural language utterance” helped address problems in the known prior art. The conventional approach was to use a fixed set of possible commands to provide the user with a menu of options. As explained above, the Command and Control approach suffered from numerous deficiencies.

The claims of the ’049 patent further recite the concept of a “model” which depending on the particular claim may pertain to “short-term knowledge,” “long-term knowledge,” or both. Creating a “model” for some or all of a conversation also helped address problems in the known prior art. This concept was not the typical way a voice-based system would keep track of voice-based inputs. Rather, the conventional approach would have been to create a text string and attempt to match the text with a list of items. Generating a “model” for the conversation would have been contrary to conventional wisdom. Persons of ordinary skill in the art would not have appreciated that the increased computational complexities would have garnered benefits in terms of overall accuracy.

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The ’703 Patent. Online shopping systems in existence before the inventions of the ’703 patent typically required a user to browse a website to locate a product, make payment, and have the product delivered.

The inventor recognized a significant problem with such systems in that a user must search a website in order to locate a product or service to be purchased and fill-out numerous payment and shipping forms to complete checkout. This problem was exacerbated on a mobile electronic device because such devices typically have small screens and keyboards making it hard for the user to search for the product or service to purchase and input payment and shipping information.

In certain embodiments, the ’703 patent advantageously provides a voice commerce system with a voice user interface for online shopping. For example, Figure 1 reproduced below shows an architecture for the voice commerce system.

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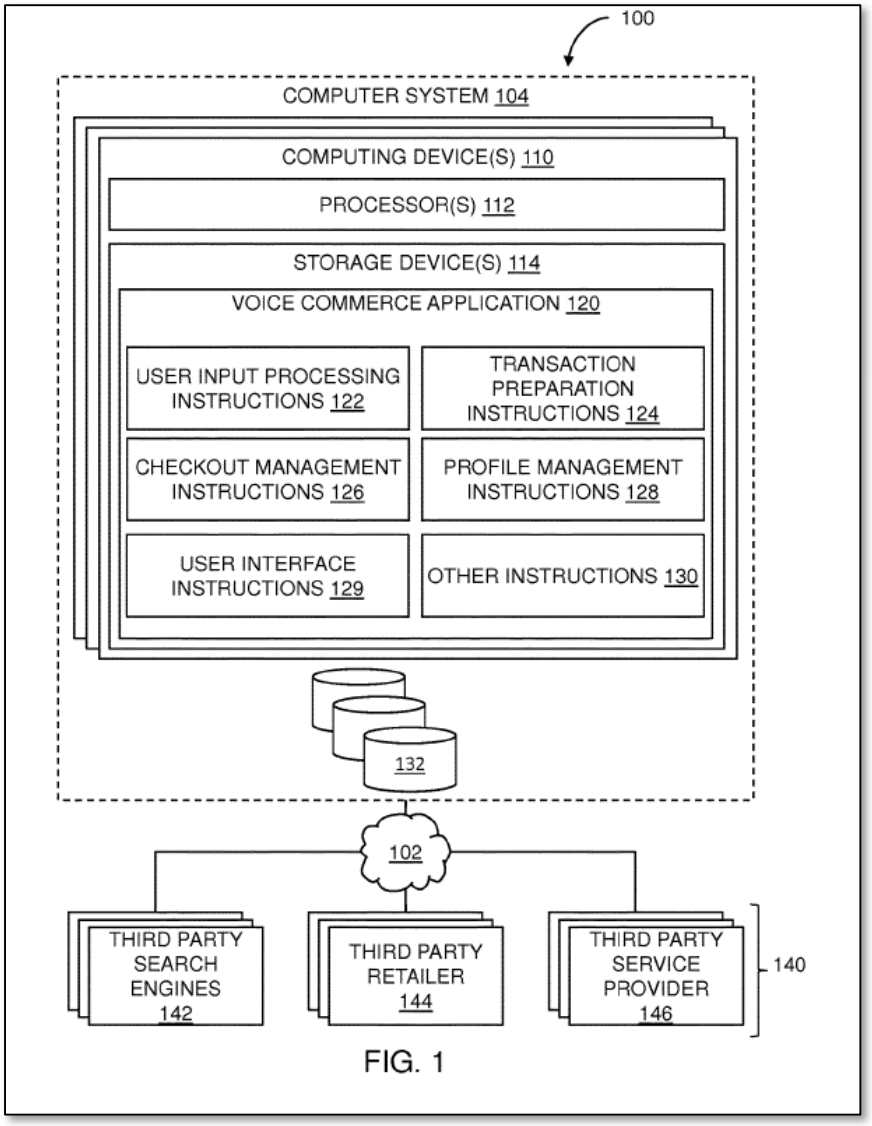


FIG. 1

The voice commerce system includes user input processing instructions 122, which may comprise a speech recognition engine and a natural language processing engine.

Figure 2, reproduced below, shows a system for facilitating natural language processing for the voice commerce system including a speech recognition engine and a natural language processing engine.

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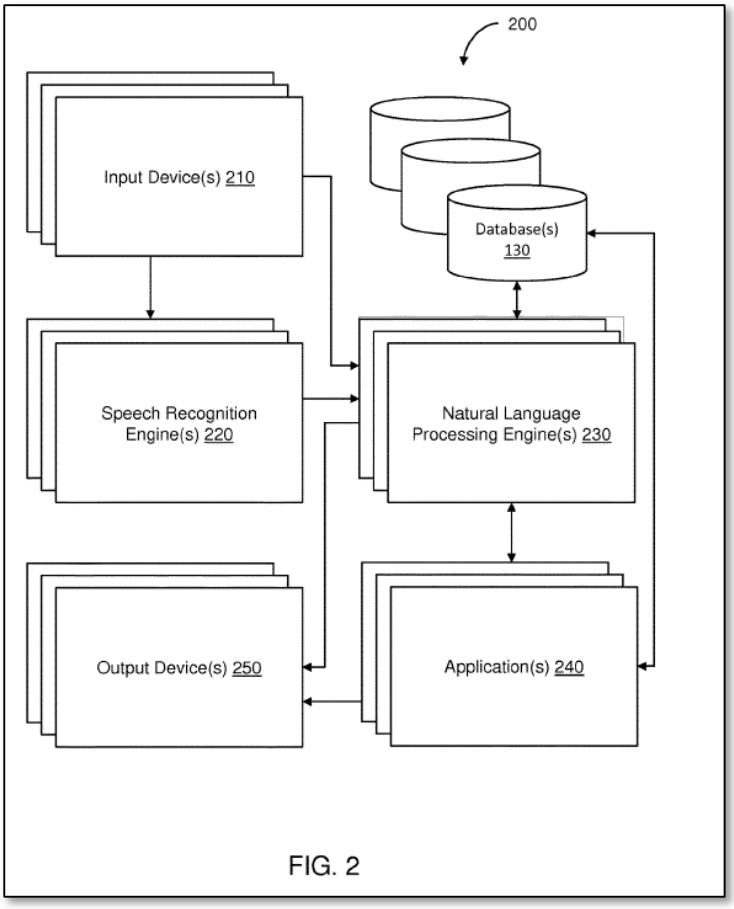


FIG. 2

The ’703 patent claims and describes a system that advantageously determines a product or service to be purchased on behalf of the user based on a natural language utterance. To do so, the system receives a natural language utterance and uses a speech recognition engine to recognize words and phrases from the natural language utterance. An example of this speech recognition engine is shown in Figure 2 as the Speech Recognition Engine 220. From the words and phrases the system identifies a context and determines a product or service to be purchased without further user input identifying a product or service. Exemplary components for performing this natural language processing are the Natural Language Processing Engine 230 shown in Figure 2 and the Transaction Preparation Instructions 124 shown in Figure 1.

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By providing this innovation, the inventor was able to address problems in conventional voice user interfaces for online shopping systems. For example, the innovations in the ’703 patent determine a product or service to be purchased based on a natural language utterance. This distinguishes the ’703 patent from existing online shopping systems that required a user to search a website to locate a product or service to be purchased.

The system has a further advantage in that it prepares and completes a transaction without further user input identifying a product or service, payment information, and/or shipping information. The system may obtain payment information with which to pay for the product or service without further user input identifying payment information. The system obtains shipping information with which to deliver the product or service without further user input identifying shipping information. Then the system completes a purchase transaction for the product or service without further user input identifying a product or service, payment information, and/or shipping information. An exemplary component for performing the above is the checkout management instructions 126 shown in Figure 1 of the ’703 patent.

In doing so, the inventor was able to address problems in online shopping and voice user interface systems thereby addressing unmet needs. For example, the innovations in the ’703 patent prepare and complete a transaction without further user input identifying a product or service, payment information, or shipping information. This distinguishes the ’703 patent from existing online shopping systems that required a user to search for a product or service and fill-out numerous payment and shipping forms to complete checkout.

During prosecution of the ’703 patent, the examiner rejected numerous application claims as being unpatentable over prior art including Li (2009/0265163) and Gailey (2002/0161647). As argued by VoiceBox Technologies’ prosecution counsel:

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Applicant respectfully disagrees with the rejections for at least the reason that the references relied upon by the Examiner do not disclose, teach or suggest each and every feature of the claims prior to the foregoing amendment to the claims. Nonetheless, solely to expedite prosecution, and expressly not acquiescing to the propriety of the alleged rejection, the claims have been amended to clarify aspects of the claimed invention.

Independent claim 1 recites, *inter alia,* the features of:

> obtaining, by the computer system, without further user input after the receipt of the user input, shipping information with which to deliver the product or service, wherein the shipping information specifies a name or address of a recipient to which the product or service is to be delivered after the product or service is purchased

Claims 15, 25, and 30 recite similar features.

In the Final Action, the Examiner acknowledges that Li does not teach "obtaining shipping information with which to deliver the product or service." In an attempt to cure the acknowledged deficiency of Li, the Examiner alleges that Gailey at paragraph [0105] teaches the foregoing. However, Gailey at paragraph [0105] at best relates to allowing a user to select a predefined address for delivery, not "obtaining, by the computer system, without further user input after the receipt of the user input, shipping information with which to deliver the product or service, wherein the shipping information specifies a name or address of a recipient to which the product or service is to be delivered after the product or service is purchased" as claimed.

The '703 patent performed the step of "determining, by the computer system, a context based at least on the one or more words or phrases." As explained above with respect to the '681 and '049 patents, the conventional approach was a Command and Control system, which did not rely on context, such as short-term and long-term knowledge about the user. The use of "context" advantageously enabled the ability for "a product or service to be purchased" "without further user input." Conventional wisdom dictated that additional information was needed from the user since the context for the utterances was unavailable.

Conventional wisdom in the context of shopping was keenly focused on menu-based systems. Indeed, web-stores were (and still are) based on product categorizations. The typical user experience involves going through a series of menus to narrow down the particular product.

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As such, there was particular focus and motivation to emulate the menus in a speech-based system. That is, for the computer to read options which the end-user selects before moving to the next menu. The ’703 patent represents a dramatic departure by “identifying … without further user input after receipt of the user input, a product or service to be purchased …based at least on the determined context…”

Additionally, conventional wisdom was that to complete an online purchase the user would either have to provide a shipping address or, at minimum, affirmatively select a predefined address. While this approach was perhaps feasible in the context of a visual user interface, the inventor recognized that it was an unnecessary and distracting step in the context of voice-controlled purchase transactions. Therefore, the ’703 patent requires “obtaining, by the computer system, without further user input after the receipt of the user input, shipping information with which to deliver the product or service.”

Additionally, “obtaining … a predetermined set of sellers specified by an administrator of the system that is different than the user” addressed problems in existing systems. Indeed, such information could be used to reduce the amount of information manually entered (or selected) by the user which reduces the complexity associated with using voice for commerce. This was an unconventional approach to solving the problems associated with transactions via voice.

The ’176 Patent, the ’536 Patent, and the ’097 Patent. The ’176, ’536, and ’097 patents stem from a common original patent application and thus share a common specification and patent figures. Before the inventions of these related patents, voice user interface systems were typically difficult to use, in part, because they had complex human to machine interfaces. Such systems forced a user to navigate through a series of menus and provide a series of user inputs to perform a relatively simple task.

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The inventors recognized significant problems with existing systems. The systems did not allow a user to directly issue a request without having to memorize specific syntaxes, words, phrases, concepts, semantic indicators, or other keywords/qualifiers. Similarly, when users were uncertain of particular needs, many existing systems did not engage the user in a productive, cooperative dialogue to resolve requests and advance a conversation. Instead, many existing speech interfaces forced users to use a fixed set of commands or keywords to communicate requests in ways that systems could understand. Using existing voice user interfaces, there was virtually no option for dialogue between the user and the system to satisfy mutual goals.

The inventors recognized other problems with existing systems. The lack of adequate voice user interfaces resulted in missed opportunities for providing valuable and relevant information to users. Not only did this potentially leave user requests unresolved, in certain instances, providers of goods and services may have lost out on potential business. In an increasingly global marketplace, where marketers are continually looking for new and effective ways to reach consumers, the problems with existing voice user interfaces left a large segment of consumer demand unfulfilled. Furthermore, existing techniques for marketing, advertising, or otherwise calling consumers to action failed to effectively utilize voice-based information, which is one of the most natural, intuitive methods of human interaction.

In certain embodiments, the ’176, ’536, and ’097 patents advantageously use a speech recognition engine and natural language processing to interpret natural language utterances, establish context for the natural language utterances, identify requests associated with natural language utterances, and provide an advertisement or promotional content to the user. In doing so, the inventors were able to address unmet needs in conventional systems. For example, the innovations in the ’176, ’536, and ’097 patents allowed a user to directly issue natural language

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requests and engage in a productive, cooperative dialogue to resolve requests and advance a conversation.

With respect to the ’176 patent, the patent describes and claims a system for selecting and presenting advertisements in response to processing natural language utterances that use a speech recognition engine and a conversational language processor to interpret a natural language utterance, establish context, select an advertisement, and present it to the user. The patent further describes and claims using a speech recognition engine configured to map a stream of phonemes contained in the natural language utterance to one or more syllables that are phonemically represented in an acoustic grammar and generate a preliminary interpretation for the natural language utterance from the one or more syllables, wherein the preliminary interpretation generated from the one or more syllables includes the recognized words or phrases.

Conventional knowledge among those of ordinary skill in the art neither taught a speech recognition engine configured in this way nor expressed any appreciation for the substantial advantages associated with using this speech recognition engine in a system that utilizes a speech recognition engine configured in this way with a conversational language processor to interpret a natural language utterance, establish context, select an advertisement, and present it to the user. In this regard, using this speech recognition engine in a system that utilizes a conversational language processor to interpret a natural language utterance, establish context, select an advertisement, and present it to the user stands in sharp contrast to the conventional approach of existing systems that required a user to memorize specific syntaxes, words, phrases, concepts, semantic indicators, or other keywords/qualifiers.

During prosecution of the ’176 patent, the examiner determined that numerous application claims were directed to allowable subject matter. According to the examiner:

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> With respect to claim 22, the prior art of record does not disclose mapping a stream of phonemes to one or more syllables that are phonemically represented in an acoustic grammar and generating a preliminary interpretation from the one or more syllables (see related U.S. Patent 7,634,409 assigned to the instant application's assignee).

In other words, the patent examiner agreed that the extensive list of cited references lacked the key technique for accomplishing the step of "recognizing one or more words or phrases in the natural language utterance at a speech recognition engine" as recited in, for example, claim 1 of the '176 patent. Indeed, the '176 patent claims the step of "mapping a stream of phonemes contained in the natural language utterance to one or more syllables that are phonemically represented in an acoustic grammar." The concept of mapping "phonemes" to "syllables" was unconventional. Instead, the common approach would have been to match entire words. In this regard, the focus in conventional systems was to increase the speed and accuracy of matching words by, among other things, creating menus that accurately guided users to saying one of a small set of words that the system expected based on the menu prompts.

The invention goes on to claim the step of "generating a preliminary interpretation for the natural language utterance from the one or more syllables." This too helped address problems in conventional systems as it focused on a multi-step approach to interpreting speech, rather than the prior art one-step approach to matching utterances to a small number of words. Thereafter, according to the invention, recognized words or phrases are interpreted in a "conversational language processor" which interprets the words or phrases based on "context for the natural language utterance."

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The ’176 patent also advantageously provided in certain claims a “personalized cognitive model derived from an interaction pattern for a specific user.” In other words, a specific data structure is generated on a per-user basis. This is at odds with conventional wisdom which focused on limiting users with potentially many different accents, word choices, or speaking patterns to use only a discrete and generic set of utterances. No attempt had been made in known prior art systems to distinguish among users based on speech characteristics and/or other known information about users.

The ’536 patent describes and claims a computer-implemented method of providing promotional content related to one or more natural language utterances and/or responses that includes receiving more than one natural language utterance and identifying, by a physical processor, requests associated with the second natural language utterance wherein the requests include a first request to be processed by a first device associated with a user and a second request to be processed by a second device associated with the user.

The known prior art in the field of voice user interfaces neither taught this computer implemented method that identifies, by a physical processor, requests including a first request to be processed by a first device associated with a user and a second request to be processed by a second device associated with the user nor expressed any appreciation for the substantial advantages associated with this computer implemented method that identifies, by a physical processor, requests including a first request to be processed by a first device associated with a user and a second request to be processed by a second device associated with the user. In this regard, using this computer implemented method that identifies, by a physical processor, requests including a first request to be processed by a first device associated with a user and a second request to be processed by a second device associated with the user stands in sharp contrast to

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the conventional and routine approach of existing systems that did not allow a user to directly issue requests.

During prosecution of the ’536 patent, the examiner rejected certain pending applications claims as anticipated by Ashton (U.S. Patent Application Publication 2007/0203736). The examiner asserted that “Ashton discloses a computer-implemented method (Fig. 12) of obtaining conversationally-related promotional content.” The examiner went on to provide additional details regarding Aston’s alleged disclosures.

In response, the applicants amended certain claims to require, *inter alia*, “providing the one or more recognized words to the first domain agent associated with a first domain and a second domain agent associated with a second domain”; “obtaining a first interpretation of the second natural language utterance from the first domain agent”; “obtaining a second interpretation of the second natural language utterance from the second domain agent”; and “determining the interpretation based on one or more of the first interpretation or the second interpretation.”

The examiner eventually allowed claims of the ’536 patent over the identified references, including Ashton. As such, the concept of “domain agents” which interpret voice for domains, such as navigation, music, a specific user, global users, advertising, e-commerce etc., was advantageous because speech could be analyzed in each domain and the interpretation could be determined by examining the result across the various domains. The concept of using multiple domain agents for the same speech helped address unmet needs in conventional approaches that direct users to utter from a narrow pre-defined dictionary of terms.

Additionally, the ’536 patent’s concept of “determining … promotional content based on the interpretation” and “presenting … the promotional content to the user” was not conventional.

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Rather, the conventional approach would have been to provide generic promotional content to all users. The ’536 patent, however, provided an important advance towards providing promotional content based on an understanding of the user’s speech including the specific context for that speech as determined by at least two domain agents. The notion of multiple domain agents reflected a recognition of a problem in conventional systems and a way to address unmet needs.

Turning to the ’097 patent, the patent describes and claims a method for providing natural language processing based on advertisements which includes interpreting, by a computer system, a natural language utterance based on an advertisement and, responsive to the existence of a pronoun in the natural language utterance, determining whether the pronoun refers to one or more of a product or service or a provider of the product or service from an advertisement.

During prosecution of the ’097 patent, the examiner determined that numerous application claims were patentable over the prior art. According to the examiner:

> The closest prior art of record is Lee et al. (U.S. Patent 8,719,005, hereinafter “Lee”). Lee discloses a method and system for responding to natural language queries, comprising identifying a pronoun in a natural language input, determining the subject referred to by the pronoun, and providing advertisements based on the natural language interpretation of the natural language input (column 8, lines 11-19 and column 10, line 66 to column 11, line 19). However, Lee and the additional prior art of record does not disclose or suggest interpreting a natural language utterance based on a provided advertisement, and, responsive to the existence of a pronoun in the natural language utterance, determining whether the pronoun refers to one or more of the product or service or a provider of the product or service associated with the advertisement, as required by independent claims 1 and 23.

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As discussed above, the examiner concluded that the invention of the ’097 patent to be distinct from Lee. The inventors had realized that the context for the utterance was important for ascertaining the meaning of the user’s utterance. Here, the ’097 patent focuses on a specific type of context; namely context related to a “pronoun” in the natural language utterance. Further, the “pronoun refers to one or more of the product or service or a provider of the product or service.” The conventional approach would have been to direct the user to utter from a discrete dictionary of words. Conventional systems would reject or otherwise disregard the user’s attempted use of a pronoun due to the inherent ambiguity of the word. However, the inventors recognized a problem in conventional approaches and provided a solution to unmet needs by recognizing that the use of a pronoun is not necessarily ambiguous when viewed in the context of the preceding advertisement. This, however, required that the computer system understand that it was providing an advertisement and, further, understand the products and/or services to which the advertisement relates. The ’097 patent therefore met a need in prior art voice systems which could only understand a discreet list of words from a menu.

The known prior art in the field of voice user interfaces neither taught this method for providing natural language processing based on advertisements which includes interpreting, by a computer system, a natural language utterance based on an advertisement and, responsive to the existence of a pronoun in the natural language utterance, determining whether the pronoun refers to one or more of a product or service or a provider of the product or service from an advertisement nor expressed any appreciation for the substantial advantages associated with this method for providing natural language processing based on advertisements which includes interpreting, by a computer system, a natural language utterance based on an advertisement and, responsive to the existence of a pronoun in the natural language utterance, determining whether

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the pronoun refers to one or more of a product or service or a provider of the product or service from an advertisement. In this regard, this method for providing natural language processing based on advertisements which includes interpreting, by a computer system, a natural language utterance based on an advertisement and, responsive to the existence of a pronoun in the natural language utterance, determining whether the pronoun refers to one or more of a product or service or a provider of the product or service from an advertisement stands in sharp contrast to the conventional and routine approach of existing systems that failed to effectively utilize voice-based information, which is one of the most natural, intuitive methods of human interaction.

Further information regarding secondary considerations of nonobviousness will be provided in expert report(s) that will be served in accordance with the applicable scheduling order, which VoiceBox incorporates by reference.

Discovery and VoiceBox's investigation are ongoing and VoiceBox reserves the right to supplement its response to this interrogatory as appropriate.

INTERROGATORY NO. 7:

Identify the level of ordinary skill in the art that you contend is applicable to each of the patents-in-suit, including the date against which you contend the level of ordinary skill in the art should be measured, and identify all documents and things upon which you rely to establish or support such level of skill.

RESPONSE TO INTERROGATORY NO. 7:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects to this interrogatory to the extent that it is premature and seeks information that is not related to any claim or defense in this action. Amazon has failed to identify any level of ordinary skill in the art on which its invalidity contentions are based. Furthermore, Amazon has failed to identify any disputed issues regarding infringement, invalidity, or claim construction that turn on the level of skill in the art. VoiceBox further objects to this interrogatory as

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premature to the extent it calls for information that is the subject of expert discovery.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

Preliminarily, VoiceBox identifies the following level of skill in the art: at least a bachelor-level degree in computer science, computer engineering, electrical engineering, engineering, linguistics, marketing, or a related field; two years of experience with automatic speech recognition, natural language understanding, engineering, linguistics, marketing, or E-commerce; and/or equivalent education, research experience, or knowledge. With regard to the date against which the level of ordinary skill in the art should be measured, VoiceBox incorporates by reference its responses to Interrogatory Nos. 3 and 5. VoiceBox may rely on documents regarding: named inventors' educational background and experience; types of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and the educational level of active workers in the field. Discovery and VoiceBox's investigation are ongoing and VoiceBox reserves the right to supplement its response to this interrogatory as appropriate. Further information regarding the level of ordinary skill in the art will be provided in expert report(s) that will be served in accordance with the applicable scheduling order, which VoiceBox incorporates by reference.

INTERROGATORY NO. 8:

Identify all prior art or art that anyone has alleged is prior art relating to the subject matter claimed in the patents-in-suit that at any time was known by, made known to, or considered by you or any of the named inventors, and for each prior art reference identify the circumstances under which such prior art was discovered, including, when it was discovered, who discovered it, and how it became known and considered by you or any of the named inventors.

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RESPONSE TO INTERROGATORY NO. 8:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects to this interrogatory to the extent that it is overly broad and unduly burdensome, vague and ambiguous, and seeks a legal conclusion regarding "prior art." VoiceBox further objects to this interrogatory to the extent that it is overly broad, and unduly burdensome, vague and ambiguous by purporting to request information about "prior art" that was "at any time . . . known by, made known to, or considered by you or any of the named inventors." VoiceBox further objects to this interrogatory to the extent that it is overly broad and unduly burdensome, not related to any claim or defense in this action, not proportional to the needs of the case, and compound by seeking an identification of "the circumstances under which such prior art was discovered, including, when it was discovered, who discovered it, and how it became known and considered by you or any of the named inventors." VoiceBox further objects to this interrogatory to the extent it seeks information already in the possession, custody, or control of Amazon as to purported prior art Amazon identified in the IPRs it filed against the patents-in-suit and in its invalidity contentions served in this case. VoiceBox further objects to this interrogatory to the extent that it seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

In accordance with Federal Rule of Civil Procedure 33(d), VoiceBox refers to the following documents because the burden of deriving or ascertaining the answer to this interrogatory from these produced documents is substantially the same for Amazon as for VoiceBox: VoiceBox-0000001–0004642.

INTERROGATORY NO. 9:

Describe in detail each instance in which any rights in the patents-in-suit and/or related

patents/applications have been licensed (whether for a fee or free), offered to license (whether consummated or not), sold, offered for sale, assigned, offered for assignment, transferred, or offered for transfer, and for each such instance, identify (a) all persons involved; (b) the date(s) of each instance; (c) all draft and final agreements and all communications related to each agreement; (d) all terms offered, requested, or accepted, including fees, rates, restrictions on the terms, including field of use restrictions; (e) all monies received, including providing all details concerning specific product sales or uses that were the purported bases for those monies, and financial statements corroborating the monies received; (f) whether the agreement is currently in effect; (g) whether the agreement was ever in breach or terminated, and if so, by whom and for what; and (h) any valuation(s) of the patents-in-suit used in any actual or attempted agreement.

RESPONSE TO INTERROGATORY NO. 9:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is overly broad and unduly burdensome to the extent that it seeks information that is not related to any claim or defense in this action and is not proportional to the needs of the case. In particular, VoiceBox objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests information about "related patents/applications." VoiceBox further objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests information about "each instance in which any rights in the patents-in-suit . . . have been . . . offered to license (whether consummated or not), . . . offered for sale, . . . offered for assignment, . . . or offered for transfer." VoiceBox further objects that this interrogatory is vague and ambiguous, overly broad, not relevant to the claims and defenses at issue in this case, not proportional to the needs of the case, and compound to the extent that it requests information related to separate subparts (a) through (h). VoiceBox further objects that this interrogatory is overly broad and unduly burdensome, not relevant to the claims and

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defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests "draft" agreements and "all communications related to each agreement" and "all terms offered [or] requested . . .including fees, rates, restrictions on the terms, including field of use restrictions" and "all monies received, including providing all details concerning specific product sales or uses that were the purported bases for those monies, and financial statements corroborating the monies received" and "whether the agreement was ever in breach or terminated, and if so, by whom and for what" and "any valuation(s) of the patents-in-suit used in any actual or attempted agreement." VoiceBox further objects to this interrogatory to the extent that it seeks information subject to confidentiality agreements, protective orders, and/or any other obligation pursuant to which VoiceBox is required to protect and/or maintain the confidentiality of any third party's documents. VoiceBox further objects to this interrogatory to the extent that it seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

In accordance with Federal Rule of Civil Procedure 33(d), VoiceBox will produce executed licenses, assignments, sales, and transfers of rights in the patents-in-suit in its possession, custody, and control; after complying with any applicable confidentiality obligations to third parties that govern the disclosure of information in such executed licenses, assignments, sales, and transfers of rights in the patents-in-suit; and to the extent that VoiceBox is able to obtain the consent of any such third parties to produce the requested information in such executed licenses, assignments, sales, and transfers of rights in the patents-in-suit; or is otherwise permitted to do so.

INTERROGATORY NO. 10:

For each asserted claim of the patents-in-suit, identify and describe any investigations,

evaluations, or opinions relating to the validity, patentability, and/or enforceability of such claim, whether performed by you or any other entity, and identify all persons with knowledge of such investigations, evaluations, or opinions.

RESPONSE TO INTERROGATORY NO. 10:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is vague and ambiguous to the extent it seeks information about "any investigations, evaluations, or opinions relating to the validity, patentability, and/or enforceability." VoiceBox further objects to this interrogatory to the extent it seeks information that is not in VoiceBox's possession, custody, or control. VoiceBox further objects to this interrogatory to the extent that it seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

VoiceBox is not aware of any investigations, evaluations, or opinions relating to the validity, patentability, and/or enforceability of the patents-in-suit that are not privileged or protected by the attorney work product doctrine.

INTERROGATORY NO. 11:

If you contend that you are entitled to an award of damages by way of any claim in this action, state what you believe to be the type(s) and amount(s) of damages to be paid by defendants, and describe in detail the factual bases upon which you base your calculation of such damages, and identify all persons with knowledge of such factual bases.

RESPONSE TO INTERROGATORY NO. 11:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory as premature to the extent it calls for information that is

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the subject of expert discovery. VoiceBox further objects to this interrogatory as vague and ambiguous because and calling for a legal conclusion as to "what you believe to be the type(s) and amount(s) of damages to be paid by defendants." VoiceBox further objects to this interrogatory to the extent that it seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

VoiceBox seeks damages in the form of (1) compensatory damages as a result of Defendants' infringement of one or more claims of the patents-in-suit, together with interest and costs, of no less than a reasonable royalty; (2) treble damages and pre-judgment interest under 35 U.S.C. § 284 as a result of Amazon's willful and deliberate infringement of one or more claims of the patents-in-suit; and (3) expenses, costs, and attorneys' fees in accordance with 35 U.S.C. §§ 284 and 285 and Rule 54(d) of the Federal Rules of Civil Procedure.

With respect to compensatory damages, VoiceBox will seek no less than a reasonable royalty, using the traditional hypothetical negotiation construct along with the analysis of other *Georgia-Pacific* factors (*Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116 (S.D.N.Y. 1970)). VoiceBox may employ valuation approaches assessing Amazon's actual, expected, and/or potential sales of and profits from accused products, and provision of Amazon software and server services to third parties such as Bose and Sonos. This approach may consider the pricing and profit margins of the accused products over time, and such pricing and profit margins compared to third-party products with Alexa capability, such as those products provided by Bose and Sonos.

VoiceBox has sought discovery of Amazon's profit on accused products, including Alexa-related client software and server systems services provided to third parties, and Amazon's underlying rationale for the strategy underlying these profit targets and software distribution approaches. The valuation approaches underlying the reasonable royalty analysis will also

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consider the direct and convoyed financial benefits to Amazon from the use of the patented technology. This will include:

a) Enhanced revenues from the sales of accused products, including third-party products with Alexa Built In;
b) Foregone profits associated with providing low prices and ongoing price cuts on accused products;
c) Foregone profits from providing free third-party access to Alexa-related software and server services;
d) Increased e-commerce revenue and enhanced Amazon profits from selling more goods and services through Amazon businesses, including but not limited to Amazon.com, Amazon Marketplace, Amazon Prime, Amazon Music Prime, Prime Video, Audible, Amazon Fresh, and Amazon Whole Foods, due to incremental activity from voice driven capabilities enabled by the patented technology;
e) Incremental profits due to sales of higher margin products enabled with the patented technology;
f) Incremental profits due to additional sales of Amazon private-label products and Amazon exclusive products driven by the patented technology;
g) Incremental revenues and/or profits associated with the Amazon Skills Program, including increased e-commerce revenue from products that work with Alexa or Amazon's Skills ecosystem, including smart home products; and
h) Benefits from the growth of an ecosystem to enhance Amazon's position and/or crowd out competitors in the virtual assistant market.

The points (e) and (f) are associated with the potential that Amazon is able to use its enhanced voice capabilities enabled by the patented technology to get better (lower) prices from suppliers, who recognize that Amazon can use favorable placement of certain products best

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matching customers' voice enabled requests, at the expense of the competing suppliers. Using voice-enabled matching in this way, Amazon can direct business to its own brands, or to the benefit of other suppliers who pay for the privilege (similar to end cap-related product cost reductions or co-op advertising credits in order to obtain favorable shelf locations in traditional brick and mortar merchandising). This assessment will include consideration of how voice-enabled product matching methods encourage better prices from Amazon's suppliers to the benefit of Amazon (either directly through larger profit margins or indirectly to Amazon due to the enhancement of the Amazon marketplace generally from lower price structures, encouraging greater customer focus on Amazon's businesses such as Amazon.com, Amazon Marketplace, Amazon Prime, Amazon Music Prime, Prime Video, Audible, Amazon Fresh, and Amazon Whole Foods). VoiceBox may also assess Amazon's activities related to the Amazon Skills Program and the Amazon Affiliate Programs (or Influencer Program), including payments to affiliates and influencers, and related to Alexa Skills, that are impacted by the enhanced voice capabilities associated with the patents-in-suit.

VoiceBox will also assess any reasonably-claimed noninfringing alternative suggested by Amazon, by examining the financial benefits to Amazon and it's Alexa ecosystem due to the use of the patented technology compared to other technology that may be deemed a noninfringing alternative, or from other geographic server and software and development approaches that may be deemed a noninfringing alternative for at least some of Amazon's regional activities subject to current accused liability under the asserted claims of the patents-in-suit.

To the extent products are used in the United States, software code is written and maintained in the United States, served with servers that are located outside the United States, VoiceBox will consider Amazon's potential ability to modify where the code is written and maintained, where the Alexa servers exist, whether Amazon would have any ability to remove servers from the United States and still satisfy any particular geographic group of customers that Amazon may claim could be subject to a noninfringing alternative that could be located outside the United States.

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Notwithstanding the above, VoiceBox will assess an element of damages closely linked to lost profits but that is an element of the reasonable royalty analysis (under various *Georgia-Pacific* factors). Specifically, VoiceBox may consider a situation where Amazon's best alternative to infringement would have been to purchase or license certain system components from VoiceBox, where VoiceBox may have been willing to provide Amazon certain system components which would enable Amazon a licensed solution, at a price that (a) provided Amazon the lowest cost solution for enabling the functionality associated with the patented technology while (b) providing VoiceBox a price consistent with its business plan, its other customers' concerns, and its best options as a software and service provider during the damages accounting period. This requires discovery on Amazon's considered options for acquisition of components for its system over time, along with the considered development cost or acquisition costs.

VoiceBox currently intends to rely on at least the following documents produced by Amazon: AMZ_VB_00046467–53067 and preliminarily identifies Rino Caruccio as a person with knowledge of the factual bases for VoiceBox's calculation of damages. Because this case is in the preliminary stages and Amazon's production of damages related information is not complete, VoiceBox is unable to provide an exact computation of these damages at this time.

Additional information on this subject will be provided in expert reports and other submissions at the appropriate time under the Court's Scheduling Order, Local Rules, and the Federal Rules of Civil Procedure. Discovery and VoiceBox's investigation are ongoing and VoiceBox reserves the right to supplement its response to this Interrogatory as appropriate.

INTERROGATORY NO. 12:

Describe in detail any valuation of any one or more of the patents-in-suit or related patents/applications (including any valuation that includes such patents and/or applications and other intellectual property as well), both individually and collectively, including without limitation (a) the monetary value attributed to such patents by VoiceBox, VB Assets, LLC,

VoiceBox Technologies, Inc., VoiceBox Technologies, Corp., Nuance, or any third-party; (b) the factual bases for each valuation, including without limitation any industry-wide standard used and any economic, statistical, accounting, or other market analyses undertaken by VoiceBox or on VoiceBox's behalf; (c) the costs, expenses, or investments—actual and estimated—made or incurred in the development of the technology claimed in such patents; (d) all persons involved in each valuation, including without limitation any experts consulted; and (e) all documents related to each valuation.

RESPONSE TO INTERROGATORY NO. 12:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is overly broad and unduly burdensome to the extent that it seeks information that is not related to any claim or defense in this action and is not proportional to the needs of the case. In particular, VoiceBox objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests information about "related patents/applications (including any valuation that includes such patents and/or applications and other intellectual property as well), both individually and collectively." VoiceBox further objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests information about "the monetary value attributed to such patents by . . . VoiceBox Technologies, Inc., VoiceBox Technologies, Corp., Nuance, or any third-party." VoiceBox further objects that this interrogatory is vague and ambiguous, overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests information about "any industry-wide standard used and any economic, statistical, accounting, or other market analyses undertaken by VoiceBox or on VoiceBox's behalf." VoiceBox further objects that this interrogatory is vague and ambiguous, overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests

information about "the costs, expenses, or investments—actual and estimated—made or incurred in the development of the technology claimed in such patents." VoiceBox further objects that this interrogatory is vague and ambiguous, overly broad, not relevant to the claims and defenses at issue in this case, not proportional to the needs of the case, and compound to the extent that it requests information related to separate subparts (a) through (e). VoiceBox further objects to this interrogatory to the extent it seeks information that is not in VoiceBox's possession, custody, or control. VoiceBox further objects to this interrogatory to the extent that it seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

VoiceBox is not aware of any valuations that are not privileged or protected by the attorney work product doctrine.

INTERROGATORY NO. 13:

For each prior art reference identified in defendants' invalidity contentions as invalidating (either alone or in combination) any asserted claim of the patents-in-suit, describe in detail all factual bases why the prior art does not invalidate the asserted claims of the patents-in-suit, including but not limited to a claim chart identifying which elements or limitations you contend are not disclosed in the prior art and the reason you contend such elements or limitations are not disclosed.

RESPONSE TO INTERROGATORY NO. 13:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is overly broad and unduly burdensome to the extent that it seeks information that is not related to any claim or defense in this action and is not proportional to the needs of the case. In particular, VoiceBox objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to

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the needs of the case to the extent that it requests information about "each prior art reference identified in defendants' invalidity contentions as invalidating (either alone or in combination) any asserted claim of the patents-in-suit." VoiceBox further objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests a "claim chart identifying which elements or limitations you contend are not disclosed in the prior art and the reason you contend such elements or limitations are not disclosed." VoiceBox further objects to this interrogatory as premature to the extent it calls for information that is the subject of expert discovery. VoiceBox further objects to this interrogatory to the extent that it seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection. VoiceBox further objects that this interrogatory is overly broad and unduly burdensome. Amazon has provided over 88 claim charts with its contention that contain boilerplate recitations that the cited art invalidates the patents-in-suit "either alone or in combination with other prior art, or in combination with the knowledge of one skilled in the art." Amazon also incorporates by reference all prior art references, charts, theories, and disclosures served on VB Assets in any prior or pending court action or proceeding before the Patent Trial and Appeal Board involving any of the patents-in-suit, including *VB Assets, LLC v. Amazon.com, Inc.,* No. 19-cv-01410-MN (D. Del.), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01346 (Jul. 23, 2020), *Amazon.com, Inc .v. VB Assets, LLC,* IPR2020-01367 (Jul. 28, 2020), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01374 (Jul. 28, 2020), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01377 (Jul. 29, 2020), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01380 (Jul. 29, 2020), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01381 (Jul. 29, 2020), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01388 (Jul. 29, 2020), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01390 (Jul. 29, 2020). Amazon further provides at least 19 grounds of purported invalidity for the '681 patent; at least 15 grounds of purported invalidity for the '049 patent; at least 13 grounds of purported invalidity for the '703 patent; at least 23 grounds of purported invalidity for the '176 patent; at least 7 grounds of purported

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invalidity for the ’536 patent; and at least 13 grounds of purported invalidity for the ’097 patent.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

VoiceBox is unable to meaningfully respond to this interrogatory because Amazon has failed to identify any concrete theory for invalidity in their invalidity contentions served December 11, 2020. VoiceBox responds that the claims of the patents-in-suit are not invalid over any alleged prior art cited by Amazon because the references alone or in combination fail to disclose and enable the practice of each and every limitation of any claim of any of the patent-in-suit. Further, Amazon has failed to show why any of the potentially numerous combinations in the grounds of purported invalidity would have been obvious to a person of ordinary skill in the art. VoiceBox incorporates by reference its Patent Owner Preliminary Responses and subsequent filings in *VB Assets, LLC v. Amazon.com, Inc.,* No. 19-cv-01410-MN (D. Del.), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01346 (Jul. 23, 2020), *Amazon.com, Inc .v. VB Assets, LLC,* IPR2020-01367 (Jul. 28, 2020), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01374 (Jul. 28, 2020), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01377 (Jul. 29, 2020), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01380 (Jul. 29, 2020), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01381 (Jul. 29, 2020), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01388 (Jul. 29, 2020), *Amazon.com, Inc. v. VB Assets, LLC,* IPR2020-01390 (Jul. 29, 2020). Additional information on this subject will be provided in expert reports and other submissions at the appropriate time under the Court’s Scheduling Order, Local Rules, and the Federal Rules of Civil Procedure. Discovery and VoiceBox’s investigation are ongoing and VoiceBox reserves the right to supplement its response to this Interrogatory as appropriate.

INTERROGATORY NO. 14:

Identify each covered product or service, if any, and whether it has ever been marked with the patent numbers of any of the patents-in-suit, including the date when such marking was first made and the date on which such marking stopped (whether temporarily or permanently);

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identify all documents or things that you contend provide evidence of such marking; identify all persons with knowledge concerning such facts (specifically identifying the person or persons most knowledgeable); and, if you contend that any basis exists for excusing any failure to mark by any person (including without limitation by any licensee) or for any time period, provide the full factual and legal basis for that contention.

RESPONSE TO INTERROGATORY NO. 14:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is overly broad and unduly burdensome to the extent that it seeks information that is not related to any claim or defense in this action and is not proportional to the needs of the case. In particular, VoiceBox objects that this interrogatory is vague and ambiguous, overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests information related to "each covered product or service." VoiceBox further objects that this interrogatory is overly broad, not relevant to the claims and defenses at issue in this case, not proportional to the needs of the case, and compound to the extent that it requests information about "whether it has ever been marked with the patent numbers of any of the patents-in-suit" and "the date when such marking was first made and the date on which such marking stopped (whether temporarily or permanently)" and "all documents or things that you contend provide evidence of such marking" and "all persons with knowledge concerning such facts (specifically identifying the person or persons most knowledgeable)" and "if you contend that any basis exists for excusing any failure to mark by any person (including without limitation by any licensee) or for any time period, provide the full factual and legal basis for that contention." VoiceBox further objects to this interrogatory to the extent it seeks information that is not in VoiceBox's possession, custody, or control. VoiceBox further objects to this interrogatory as seeking a legal conclusion. VoiceBox further objects to this interrogatory as premature to the extent it calls for information that is the subject of expert discovery. VoiceBox further objects to this interrogatory to the extent that it

seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

VoiceBox is currently unaware of any covered product or service of VoiceBox or its licensees. VoiceBox's investigation is ongoing and it reserves the right to supplement its response to this Interrogatory.

INTERROGATORY NO. 15:

Describe in detail your contention that "Amazon t[ook] VoiceBox's Technology," as alleged in paragraphs 25-44 of your first amended complaint (D.I. 22), including each specific functionality of the technology that you contend was taken; identify all information shared with Amazon (or its current or previous employees) related to your contention, including technical documents, presentations, demonstrations, communications, meetings, phone calls, emails, letters, meeting notes, meeting minutes, and meeting agendas describing each specific functionality of the technology shared with Amazon; and for each functionality explain how it was incorporated by Alexa and identify the specific Alexa source code corresponding to the functionality.

RESPONSE TO INTERROGATORY NO. 15:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is overly broad and unduly burdensome to the extent that it seeks information that is not related to any claim or defense in this action and is not proportional to the needs of the case. In particular, VoiceBox objects that this interrogatory is vague and ambiguous, overly broad, not relevant to the claims and defenses at issue in this case, and not proportional to the needs of the case to the extent that it requests information about "each specific functionality of the technology that you contend was taken." VoiceBox further objects to

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this interrogatory to the extent it seeks information that is not in VoiceBox's possession, custody, or control to the extent is seeks information regarding "for each functionality explain how it was incorporated by Alexa and identify the specific Alexa source code corresponding to the functionality." Amazon has refused full discovery into the personnel involved in meetings with VoiceBox's predecessor and the actions taken by such personnel. VoiceBox further objects to this interrogatory to the extent that it seeks information protected by the attorney-client privilege, the work product doctrine, joint defense or common interest privilege, and/or any other applicable privilege, immunity, or protection.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

VoiceBox incorporates by reference its October 7, 2020 infringement contentions and any supplements thereto. In accordance with Federal Rule of Civil Procedure 33(d), VoiceBox will produce documents related to information shared with Amazon (or its current or previous employees) related to the patents-in-suit from which the burden of deriving or ascertaining information responsive to this interrogatory is substantially the same for Amazon as for VoiceBox. Furthermore, such information is already in the possession, custody, or control of Amazon. Discovery and VoiceBox's investigation are ongoing and VoiceBox reserves the right to supplement its response to this interrogatory as appropriate.

INTERROGATORY NO. 16:

Identify the VoiceBox employees who you contend Amazon recruited, as alleged in paragraphs 35-36 of your first amended complaint (D.I. 22), including their names, dates of employment at VoiceBox, positions or titles held at VoiceBox, and roles and responsibilities while at VoiceBox.

RESPONSE TO INTERROGATORY NO. 16:

In addition to the foregoing general objections, which are expressly incorporated herein, VoiceBox objects that this interrogatory is overly broad and unduly burdensome to the extent that

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it seeks information that is not related to any claim or defense in this action and is not proportional to the needs of the case. In particular, VoiceBox objects that this interrogatory is overly broad to the extent that it requests information about "dates of employment at VoiceBox, positions or titles held at VoiceBox, and roles and responsibilities while at VoiceBox." VoiceBox further objects to this interrogatory to the extent it seeks information that is not in VoiceBox's possession, custody, or control.

Subject to and without waiver of the foregoing general and specific objections, VoiceBox responds as follows:

Below, VoiceBox provides a preliminary listing of former VoiceBox Technologies Corporation personnel who currently work at Amazon or have in the past. VoiceBox's investigation is ongoing and it reserves the right to supplement its response to this interrogatory.

Name	**VoiceBox Technologies Corporation Position**
Marie-Renee Arend	Speech Scientist Lead June 2013 – Jan 2017
Kyle Bergman	Software Engineering Intern June 2016 – Jan 2017
Tristan Bodding-Long	Senior NLU Engineer, Lead Jan 2016 – March 2017
Carine Boekee	Multi-Linguist and Localization Analyst Feb 2008 – Oct 2008
Tim Bruce	Sr. Sales Engineer Jan 2015 – Aug 2017
Anca Burducea	Computational Linguist June 2015 – Aug 2016
Chris Byszeski	Software Engineer June 2006 – Oct 2008
Matthew Cecil	NLU Engineer II

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Name	VoiceBox Technologies Corporation Position
	May 2016 – July 2017
Laetitia Chalain	Multi Language Localization Expert Oct 2007 – July 2008
Lucy Chao	Sr. Program Manager Sept 2014 – Sept 2015
Philippe Di Cristo	Chief Scientist, Vice-President Speech and NLU R&D Jul 2003 – Sep 2016
Emilie Drouin	Group Program Manager Nov 2007 – Unknown
Campion Fellin	Software Developer Intern
David Frerichs	Consultant
Adriana Gallagher	Conversational Writer/ Annotator/ Localization Specialist en-US Oct 2016 – April 2018
Daniel Green	Manager, Program Management/ Customer Group Program Manager Aug 2013 – July 2016
Dan Heizer	Embedded Software Engineer Feb 2016 – Jan 2017
Colin Kho	Software Developer Engineer June 2012 – Jan 2013
Kate Koubatova	Localization Specialist May 2017 – Oct 2017
Dale Kutzera	Creative Writer Mar 2016 – Jan 2017
Anne-Marie Laperriere	Multi Language Localization Expert Nov 2007 – Oct 2008
Jingyu Li	Senior Software Engineer, Technical Lead

Name	VoiceBox Technologies Corporation Position
	April 2006 – Oct 2008
Meghan MacKrell	Software Test Engineer/ Localization Engineer (EN-US) April 2017 – Oct 2017
Nicholas Nelson	Software Engineer Aug 2016 – April 2017
Trevor Nolan	Director, Marketing and Business Development Aug 2005 – Dec 2007
Roman Pamucci	Principal Software Architect Lead Sept 2007 – Present
Antonio Pizzutelli	MLL Analyst Mar 2008 – Nov 2008
Jeff Prachar	Director of Engineering Jan 2012 – June 2016
Jon Pulsipher	Director of Engineering, Mobile Speech Navigation Platform May 2004 – April 2006
Zeynab Raeesy	Senior Speech Scientist April 2016 – June 2017
Spencer Rothwell	Technical Program Manger Lead, Data & Crowdsourcing May 2014 – Feb 2017
Molly Soliday	Software Developer Intern June 2011 – Sept 2011
David Stone	Localization Specialist (EN-US) Oct 2016 – May 2018
Daniele Terdina	Principal Software Development Engineer Mar 2013 – Jan 2018

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Name	VoiceBox Technologies Corporation Position
Aaron Tungseth	Audio Engineering Manager/Senior Audio Engineer Oct 2005 – June 2018
Peipei Wei	NLU (Natural Language Understanding) Engineer June 2016 – Sept 2016
Andrew Wilkinson	Transcriptionist 2008
Taylor Wu	Director – Program Management May 2002 – April 2014

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Dated: February 18, 2021

WILSON SONSINI GOODRICH & ROSATI
Professional Corporation

By: */s/ Ian R. Liston*

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