IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

DIALECT, LLC,	§	
Plaintiff,	§	
	§	
v.	§	Case No.: 2:24-cv-207-JRG
	§	
BANK OF AMERICA, N.A.,	§	
	§	
Defendant.	§	
	§	

DEFENDANT'S PATENT L.R. 3-3 INVALIDITY CONTENTIONS AND SUBJECT MATTER INELIGIBILITY CONTENTIONS

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Pursuant to Patent Local Rule 3-3 and the Court's Standing Order Regarding Subject Matter Eligibility Contentions Applicable to All Patent Infringement Cases Assigned to Chief District Judge Rodney Gilstrap (July 25, 2019), Defendant Bank of America, N.A. ("BofA" or "Defendant") hereby serves these Invalidity and Subject Matter Eligibility Contentions (collectively, "Invalidity Contentions") on Plaintiff Dialect, LLC ("Dialect" or "Plaintiff"). These Invalidity Contentions address claims 12 and 13 of U.S. Patent No. 7,640,160 ("the '160 Patent"); claims 19, 25-30, and 32 of U.S. Patent No. 8,195,468 ("the '468 Patent"); claims 12 and 13 of U.S. Patent No. 8,447,607 ("the '607 Patent"); claims 13-15 and 17-18 of U.S. Patent No. 9,263,039 ("the '039 Patent"); and claims 7 and 8 of U.S. Patent No. 9,495,957 ("the '957 Patent") (collectively the "Asserted Claims" of the "Asserted Patents" and/or "Patents-in-Suit"), as asserted in Plaintiff's Patent Local Rules 3-1 and 3-2 Disclosures served on June 14, 2024 to BofA.

The citation of prior art herein and the accompanying exhibits are not intended to reflect Defendant's claim construction contentions, which will be disclosed in due course in accordance with the First Amended Docket Control Order and may instead reflect Plaintiff's apparent (and potentially erroneous) claim constructions based on its Infringement Contentions.

I. INTRODUCTION

Defendant has not completed its investigation of the facts and documents relating to this action and has not completed its preparation for trial. Defendant has not taken any depositions in this action, including, without limitation, any depositions of the named inventors of the Patents-in-Suit, persons with knowledge of prior art systems and references, and/or other persons having potentially relevant information. As discovery in this action provides Defendant with additional information, it is possible that Defendant will discover additional prior art pertinent to the invalidity of the Asserted Claims of the Patents-in-Suit, and Defendant reserves the right to supplement these contentions after becoming aware of additional prior art or information. For example, Defendant is diligently pursuing additional discovery into certain prior art systems and expects to supplement these contentions in due course. Defendant reserves the right to rely on any invalidity position and any prior art reference included in the invalidity contentions of any present or former defendant in Plaintiff's lawsuits that Plaintiff did not timely produce pursuant to Defendant's discovery requests. Defendant further reserves the right to introduce and use such supplemental materials at trial.

There has been no claim construction ruling in this case, nor an exchange of proposed constructions. Accordingly, Defendant's Invalidity Contentions reflect the presumed readings of the claims advanced by Plaintiff in its Infringement Contentions and may reflect alternative readings.[1] These Invalidity Contentions, including as to anticipation, obviousness, Section 112, Section 101, the accompanying claim charts, and any referenced *inter partes* review ("IPR") proceedings, are not admissions or adoptions as to any particular claim scope or construction nor an admission that any particular element is met in any particular way in Defendant's Accused Instrumentalities, nor an admission or adoption as to any particular reading of the intrinsic record. Nothing herein should be treated as an admission that Defendant agrees with Plaintiff's express or implied contentions and/or claim constructions or that Plaintiff has proposed any discernible constructions for claims and/or claim terms in its deficient Infringement Contentions. To the extent that Defendant understands Plaintiff's allegations of infringement, Plaintiff attempts to stretch the language of the Asserted Claims beyond the scope to which the claims could reasonably be entitled in light of the disclosures of the Patents-in-Suit and the prosecution histories. Moreover, as discussed further below, certain terms are indefinite and are therefore invalid. Although Defendant has attempted to map the terms to the prior art, insofar as the Court decides that they are not

[1] Defendant does not concede that Plaintiff's apparent constructions are correct, but rather asserts the well-established principle that whatever infringes a claim if later in time anticipates if earlier in time. *Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1378 (Fed. Cir. 2001). Thus, where Plaintiff for purposes of its infringement case alleges that a feature of an accused product meets a particular limitation recited in one or more of the Asserted Claims, then that feature, should it be found in the prior art, would also cause that limitation to be met for invalidity purposes.

indefinite, Defendant may amend these contentions to point to additional disclosure of whatever the Court identifies as the relevant construction.

Defendant further reserves the right to revise these Invalidity Contentions in view of the Court's construction of terms and phrases recited in one or more of the Asserted Claims, additional information obtained during discovery, additional infringement theories put forth by Plaintiff during fact and/or expert discovery, any findings as to the priority date(s) of the Asserted Claims, and/or positions that Plaintiff, its fact witnesses, or its expert witness(es) may take concerning claim construction, infringement, and/or invalidity issues.

Defendant contends that the Asserted Claims are invalid under 35 U.S.C. § 102 and/or § 103 as being anticipated by or rendered obvious by prior art disclosed herein and/or in view of the knowledge of one of ordinary skill in the art. Prior art not included in this disclosure, whether or not now known to Defendant, may become relevant depending on the claim constructions ultimately adopted by the Court. Defendant's ongoing investigation may also uncover additional prior art. Any obviousness combinations of references provided herein pursuant to 35 U.S.C. § 103 are not intended to be exhaustive. Additional obviousness combinations of the references identified below are possible, and Defendant reserves the right to use any such combinations in this litigation. Defendant further reserves the right to supplement their accompanying P.R. 3-4(b) document production should it later discover additional prior art documents, information, testimony, prior art systems and related documentation, and/or software or hardware code, including information provided by third parties after the date of service of these Invalidity Contentions.

In addition, Defendant contends that certain Asserted Claims do not satisfy one or more requirements of 35 U.S.C. §§ 101 and/or 112. In order to fulfill its obligations pursuant Patent L.R. 3-3, however, Defendant has applied the prior art based on an assumption that Plaintiff contends all Asserted Claims satisfy all of the applicable requirements of 35 U.S.C. §§ 101 and/or 112. The application of prior art in these Invalidity Contentions should not be construed as an admission that Defendant agrees that any of the Asserted Claims satisfies all the requirements of 35 U.S.C. §§ 101 and 112.

Defendant may further rely on inventor admissions concerning the scope or state of the prior art relevant to the Asserted Claims, the patent prosecution histories of the Asserted Patents, related patents and/or patent applications, any deposition or trial testimony of the named inventor on the Asserted Patents, and the papers filed and any evidence produced or submitted by Plaintiff in connection with this case or other related litigation. Defendant reserves the right to contend that one or more of the Asserted Claims are invalid under 35 U.S.C. § 102(f) in the event Defendant obtains evidence that the named inventor(s) did not invent the subject matter in the Asserted Claims.

Defendant intends these disclosures to serve as a first notice under 35 U.S.C. § 282(c).

Defendant does not believe Plaintiff's Infringement Contentions comply with Patent L.R. 3-1, which has compromised Defendant's ability to prepare its invalidity contentions. As a result, Defendant has elected the prior art references disclosed in these invalidity contentions without an adequate understanding of Plaintiff's infringement positions. To the extent Plaintiff supplements its infringement contentions, Defendant reserves their right to update their invalidity contentions accordingly. Defendant reserves the right to rely on any invalidity position and any prior art reference included in the invalidity contentions of any present or former defendant in Plaintiff's lawsuits and by any potential or actual licensees to the Patents-in-Suit; and any contentions in reexamination or post-grant proceedings (e.g., IPR) involving the Patents-in-Suit or any patents that claim priority to, claim priority from, are in the prior or subsequent priority chain of, or are the basis for a claim of priority in the Patents-in-Suit (collectively, the "Related Patents"). Defendant also reserves the right to rely upon any reference cited during the prosecution history, an IPR proceeding, or reexamination proceeding associated with the Asserted Patents, including the prosecution history and any proceeding against the Related Patents. Defendant reserves the right to rely on that prior art, including in a similar manner that the reference was used in the prosecution history or IPR proceeding or reexamination proceeding. These proceedings include at least the following IPR and reexamination proceedings, and any IPR or reexamination proceedings filed by Defendant or any third party subsequent to service of these invalidity contentions: IPR2024-00751 against the ’607 Patent; IPR2024-00753 against the ’160 Patent; and Reexamination Control No. 90/015,303 against the ’957 Patent.

Because Defendant’s investigation, prior art search, and analysis are still ongoing, it is likely that Defendant will identify additional prior art or contentions that will add meaning to already known prior art or contentions or possibly lead to additions or changes to these Invalidity Contentions. Without obligating itself to do so, Defendant reserves all rights to amend, modify, or supplement these Invalidity Contentions. Defendant further reserves the right to rely on any facts, documents, or other evidence that are: (i) subsequently discovered; (ii) subsequently determined to be relevant for any purpose; or (iii) subsequently determined to have been omitted from a production, whether inadvertently or otherwise. Defendant further reserves the right to rely on expert testimony. Documents related to expert testimony, if any, will be produced when expert discovery is exchanged pursuant to the Court’s First Amended Docket Control Order and Discovery Order.

The references identified in these Invalidity Contentions, which include the attached claim charts, may disclose the elements of the Asserted Claims explicitly and/or inherently, and/or they may be relied upon to show the state of the art in the relevant time frame. References identified in these Invalidity Contentions, as well as the “References Cited” on the face of the Asserted Patents and the patents or technical references cited within the body of the Asserted Patents, may be used to illustrate, but not limit the scope of, the state of the art to which the Asserted Patents pertain (*i.e.*, at a time prior to the date of alleged inventions of the Asserted Claims of the Asserted Patents). Moreover, Defendant reserves the ability to rely on later identified sources of information, including but not limited to witness testimony and other discovery, to establish the state of the art in the relevant time frame pertaining to the Asserted Patents. Defendant's claim charts cite to particular teachings and disclosures of the prior art as applied to features of the Asserted Claims. However, persons having ordinary skill in the art generally may view an item of prior art in the context of other publications, literature, products, and understanding. As such, the cited portions are only examples, and Defendant reserves the right to rely on uncited portions of the prior art references and on other publications and expert testimony, including any underlying systems described in the prior art references, references cited therein, or different versions of same prior art references or documents describing same or related systems, as aids in understanding and interpreting the cited portions, as providing context thereto, and as additional evidence that the prior art discloses a claim limitation. Citations to a figure in a reference should be understood to include the text that relates to that figure, and citations to text that relates to a figure should be understood to include the figure. Defendant further reserves the right to rely on uncited portions of the prior art references, other publications, the state of the art, and testimony to establish bases for combinations of certain cited references that render the Asserted Claims obvious.

In view of likely third-party discovery that will be taken, Defendant reserves the right to present additional items of prior art under 35 U.S.C. §§ 102(a), (b), (e), and/or (g) and/or § 103 located during discovery or further investigation, and to assert contentions of invalidity under 35 U.S.C. §§ 102(c), (d), or (f). For example, Defendant expects to issue subpoenas to third parties believed to have knowledge, documents, and/or other evidence concerning invalidity of one or more of the Asserted Claims.

In addition to the positions and prior art identified in these Invalidity Contentions (including the accompanying invalidity claim charts), Defendant also incorporates by reference all invalidity contentions, prior art, and invalidity claim charts (including, without limitation, all anticipation positions, obviousness positions (including all prior art combinations and motivations to combine), indefiniteness positions, written description positions, and non-enablement positions) concerning one or more of the Asserted Patents, as disclosed at any time. This includes without limitation disclosures in previous or related litigation, in United States Patent & Trademark Office ("USPTO") proceedings, by the Plaintiff, or by the named inventors or any individuals associated with the prosecution and/or post-grant reviews of the Asserted Patents.

Specifically, for example, Defendant identifies, as prior art upon which Defendant may rely to show the invalidity of the Asserted Claims, the prior art references disclosed by parties in any other litigation involving one or more of the Asserted Patents, any patent related to any of the Asserted Patents, and/or any other patent claiming priority to the Asserted Patents.

Plaintiff has a duty to produce to Defendant all relevant documents from any other litigation or USPTO proceeding involving one or more of the Asserted Patents, including, but not limited to, all prior art, invalidity contentions, and expert reports on invalidity (among other relevant items).

The foregoing statements and reservations of rights are hereby expressly incorporated by reference in their entirety into each of the disclosures below, into the invalidity charts served herewith as Appendices, and into each disclosure corresponding to each element of every claim.

II. PRIORITY DATE

While Plaintiff has alleged in its Infringement Contentions that the Asserted Claims are entitled to certain priority dates earlier than the filing date of the application in some cases, Defendant does not concede that any Asserted Claim is entitled to a priority date earlier than the filing date of the application from which that Asserted Claim directly issued. To the extent the Asserted Claims of any of the Asserted Patents are not supported by the pre-March 16, 2013, disclosure to which Plaintiff claims priority, Defendant reserves the right to supplement these Invalidity Contentions to further address post-AIA invalidity grounds.

III. PATENT L.R. 3-3(A)

In the following subsections, Defendant identifies each item of prior art that Defendant alleges anticipates one or more of the Asserted Claims, renders them obvious, and/or forms part of the state of the art that was well understood to those of skill in the art as of the respective priority dates of the Asserted Patents. Each of the following patents, publications, systems, and products is prior art under at least one or more of 35 U.S.C. § 102(a), (b), (e), (f), or (g) (pre-AIA) or § 102(a) (post-AIA), as applicable. These prior art patents, publications, systems, and products disclose the elements of the Asserted Claims either explicitly, implicitly, inherently, or via an obvious combination, and/or are relied upon to show the state of the art in the relevant timeframes. Defendant further reserves the right to rely upon the following to show the state of the art in the relevant timeframes: all prior art cited on the face of the Patents-in-Suit and Related Patents, the admitted prior art references[2] in the specification of the Patents-in-Suit and Related Patents, all prior art cited in the prosecution histories of the Patents-in-Suit and Related Patents, including in any reexaminations, reissue, or IPR proceedings, and the references cited in any invalidity contentions submitted in any action or proceedings involving the Patents-in-Suit or Related Patents.

In addition to the prior art identified below and in the attached exhibits, Defendant incorporates by reference all prior art, exhibits, and detailed explanations of how the Asserted Claims are obvious or anticipated by prior art as described in at least the following IPR and/or reexamination proceedings pending before the United States Patent and Trademark Office: IPR2024-00751 against the ’607 Patent; IPR2024-00753 against the ’160 Patent; and Reexamination Control No. 90/015,303 against the ’957 Patent. Defendant also incorporates by reference all prior art, exhibits, and detailed explanations of how the Asserted Claims are obvious or anticipated by prior art as described in the invalidity contentions of any present or former defendant in Plaintiff’s lawsuits and by any potential or actual licensees to the Patents-in-Suit; and any contentions in reexamination proceedings or IPR proceedings involving the Asserted Patents or the Related Patents.

[2] The applicants admitted prior art (AAPA) of the Patents-in-Suit include the systems and methods described in the “Background” sections of the Patents-in-Suit. *See* examples in Section III.C below.

To the extent that Plaintiff challenges a prior art patent's qualification as prior art, Defendant reserves the right to rely upon: (i) foreign counterparts of U.S. patents identified in these Invalidity Contentions; and (ii) U.S. counterparts of foreign patents and foreign patent applications identified in these Invalidity Contentions, to the extent such references qualify as prior art and contain the same substantive disclosure.

A. <u>Prior Art Patents, Applications, and Printed Publications for All Asserted Claims</u>

Defendant has identified each prior art patent or application by its number, country of origin, and date of issue or, if an application, date of publication. Unless otherwise noted, the country of origin for the prior art patent or patent application is the U.S. To the extent feasible, Defendant has identified each prior art publication by its title, date of publication, author, and publisher. The dates provided are not necessarily the earliest date and should be understood accordingly (*e.g.*, the date of issue/publication is at least as early as the date cited below, as with date of publication, filing date, etc.).

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue / Publication	Filing Date	Herein Referred As
1	Applicants Admitted Prior Art (AAPA)			
2	U.S. Pat. App. Pub. 2004/0148170 to Acero et al.	7/29/2004	5/30/2003	Acero
3	U.S. Pat. App. Pub. 2004/0030556 to Bennett	2/12/2004	6/25/2003	Bennett
4	U.S. Pat. App. Pub. 2004/0176954 to Wang	9/9/2004	3/5/2003	Wang-954
5	U.S. Pat. App. Pub. 2004/0225499 to Wang et al.	11/11/2004	3/17/2004	Wang-499
6	U.S. 6,964,023 to Maes et al.	11/8/2005	2/5/2001	Maes
7	U.S. Pat. App. Pub. 2002/0087306 to Lee et al.	7/4/2002	5/23/2001	Lee-306

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue / Publication	Filing Date	Herein Referred As
8	U.S. Pat. App. Pub. 2002/0160766 to Portman et al.	10/31/2002	9/4/2001	Portman
9	U.S. Pat. App. Pub. 2003/0093419 to Bangalore et al.	5/15/2003	8/12/2002	Bangalore
10	U.S. 7,925,506 to Farmaner et al.	4/12/2011	10/5/2004	Farmaner
11	U.S. Pat. App. Pub. 2004/0044516 to Kennewick et al.	3/4/2004	6/3/2003	Kennewick
12	U.S. 6,453,315 to Weissman et al.	9/17/2002	11/1/1999	Weissman
13	U.S. 7,684,985 to Dominach et al.	3/23/2010	12/10/2003	Dominach
14	U.S. 7,085,723 to Ross et al.	8/1/2006	8/16/2001	Ross
15	U.S. 7,137,126 to Coffman et al.	11/14/2006	7/2/2001	Coffman
16	U.S. Pat. App. Pub. 2002/0087315 to Lee et al.	7/4/2002	5/23/3001	Lee-315
17	Akay, Metin, et al, A System for Medical Consultation and Education Using Multimodal Human/Machine Communication	11/1998		Akay
18	Armaroli, Christiana, et al, An architecture for multi-modal Web Browser	9/2002		Armaroli
19	Bahl, L.R., et al, Method for Constructing Alternate Word Lists	5/1992		Bahl
20	Barthelmess, P., et al, Perceptual Collaboration in Neem	10/2002		Barthelmess
21	U.S. 6,760,704 to Bennett	7/6/2004	9/29/2000	Bennett II
22	Bernsen, Niels, et al, Domain-Oriented Conversation with H.C. Andersen	6/2004		Bernsen I
23	Bernsen, Neils, et al, Conversational H.C. Andersen First Prototype	6/2004		Bernsen II
24	U.S. 7,177,799 to Calcagno, et al	2/13/2007	1/14/2002	Calcagno
25	Chai, Joyce, et al, Context-based Multimodal Input Understanding in Conversational Systems	10/2002		Chai I
26	Chai, Joyce, Semantics-based Representation for Multimodal Interpretation in Conversational Systems	8/2002		Chai II

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue / Publication	Filing Date	Herein Referred As
27	Cheyer, Adam, et al, Multimodal Maps: An Agent-Based Approach	1998		Cheyer
28	U.S. 6,327,590 to Chidlovskii, et al	12/4/2001	5/5/1999	Chidlovskii
29	WO 03/003193 to Coffman, et al	1/9/2003	6/27/2002	Coffman II
30	WO 00/020962 to Coffman, et al	4/13/2000	10/1/1999	Coffman III
31	U.S. Pat. App. Pub. 2004/0254791 to Coifman, et al	12/16/2004	3/1/2004	Coifman
32	Dragon Dictate - The Premier PC Dictation Program User's Guide	1995		Dragon Dictate
33	U.S. 7,092,928 to Elad, et al	8/15/2006	7/31/2001	Elad
34	Flychy-Eriksson, Annika, A Survey of Knowledge Sources in Dialogue Systems	1999		Flychy-Eriksson
35	U.S. 5,918,222 to Fukui, et al	6/29/1999	3/15/1996	Fukui
36	Gori, Marco, et al, Web-Browser Access Through Voice Input and Page Interest Prediction	6/1997		Gori
37	Halton, Jean-Paul, Automatic Speech Recognition: A Review	4/2003		Halton
38	Henricksen, K., et al, Adapting the Web Interface: An Adaptive Web Browser	1/2001		Henricksen
39	U.S. Pat. App. Pub. 2005/0060290 to Herscovici, et al	3/17/2005	9/15/2003	Herscovici
40	U.S. Pat. App. Pub. 2005/0101300 to Hon, et al	5/12/2005	11/11/2003	Hon
41	Huang, X., et al, MiPad: A Multimodal Interaction Prototype	5/2001		Huang
42	Ida, Masaki, et al, Rapid Environment Adaption Method Based on HMM Composition with Prior Noise GMM and Multi-SNR Models for Noisy Speech Recognition	5/2004		Ida
43	IPR2024-00751 Petition for *Inter Partes* Review	4/5/2024		IPR2024-00751
44	IPR2024-00753 Petition for *Inter Partes* Review	4/5/2024		IPR2024-00753
45	U.S. 7,398,209 to Kennewick, et al	7/8/2008	6/3/2003	Kennewick II
46	U.S. 7,548,863 to Kida, et al	6/16/2009	8/6/2002	Kida
47	WO 01/84539 to Swillens et al.	11/8/2001	4/26/2001	Swillens
48	U.S. 6,996,531 to Korrall, et al	2/7/2006	3/30/3001	Korrall
49	Kvale, Knut, et al, Speech Centric Multimodal Interfaces for Mobile Communications Systems	2/2003		Kvale

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue / Publication	Filing Date	Herein Referred As
50	Kvale, Knut, et al, Speech-Centric Multimodal Interaction with Small Mobile Terminals	10/2001		Kvale II
51	U.S. 6,556,973 to Lewin	4/29/2003	4/19/2000	Lewin
52	Lockelt, Markus, et al, Making Sense of Partial	9/2002		Lockelt
53	U.S. 6,964,023 to Maes et al.	11/8/2005	2/5/2001	Maes
54	U.S. Pat. App. Pub. 2006/0053000 to Moldovan, et al	3/9/2006	10/7/2005	Moldovan
55	Odubiyi, Jide, et al, SAIRE – A Scalable Agent-Based Information Retrieval Engine	2/1997		Odubivi
56	U.S. 7,027,975 to Pazandak, et al	4/11/2006	8/8/2000	Pazandak
57	U.S. Pat. App. Pub. 2002/0046022 to Rose, et al	4/18/2002	10/10/2001	Rose
58	U.S. 7,219,058 to Rose, et al	5/15/2007	10/1/2001	Rose II
59	Rose, R. C., et al, On the Implementation of ASR Algorithms for Hand-Held Wireless Mobile Devices	5/2001		Rose III
60	U.S. Pat. App. Pub. 2002/0133354 to Ross, et al	9/19/2002	8/16/2001	Ross
61	U.S. Pat. App. Pub. 2006/0074980 to Sarkar	4/6/2006	9/29/2004	Sakar
62	Ter Doest, Hugo, et al, Language Engineering in Dialogue Systems	1/1996		Ter Doest
63	U.S. 7,020,609 to Thrift, et al	3/28/2006	3/16/2001	Thrift
64	U.S. Pat. App. Pub. 2004/0158457 to Veprek, et al	8/12/2004	2/12/2003	Vebrek
65	Vesnicer, Bostjan, et al, A Voice-driven Web Browser for Blind People	9/2003		Vesnicer
66	Voice Type Dictation for Windows, User's Guide, Version 1.1	1/1995		
67	VoiceType Dictation for OS2 and Windows			
68	Wahlster, Wolfgang, SmartKom: Fusion and Fission of Speech, Gestures, and Facial Expressions	11/2002		Wahlster
69	Wahlster, Wolfgang, Toward Symmetric Multimodality: Fusion and Fission of Speech, Gesture and Facial Expression	9/2003		Wahlster II
70	U.S. Pat. App. Pub 2005/0209868 to Wan, et al	9/22/2005	3/19/2004	Wan
71	U.S. 8,195,468 to Weidner, et al	6/5/2012	4/11/2011	Weidner
72	U.S. Pat. App. Pub. 2003/0191636 to Zhou	10/9/2003	4/5/2002	Zhao
73	U.S. 4,847,784 to Clancey	7/11/1989	7/13/1987	Clancey
74	Clow, Joshua, et al, STAMP - A Suite of Tools for Analyzing Multimodal System Processing	11/1998		Clow

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue / Publication	Filing Date	Herein Referred As
75	Cohen, P.R., et al, The Efficiency of Multimodal Interaction: A Case Study	1998		Cohen
76	Cohen, Paul, et al, The DARPA High-Performance Knowledge Bases Project	1998		Cohen II
77	Cohen, Philip, et al Multimodal Interaction for 2D and 3D Environments	7/1999		Cohen III
78	Cohen, Philip, et al QuickSet - Multimodal Interaction for Distributed Applications	1997		Cohen IV
79	Cohen, Philip, et al QuickSet - Multimodal Interaction for Simulation Set Up and Control	1997		Cohen V
80	Cohen, Philip, et al, Mulitmodal interaction for distributed interactive simulation	1997		Cohen VI
81	Cohen, Philip, et al, Quickset multimodal interaction for distributed applications	1997		Cohen VII
82	Cohen, Philip, et al, The Efficiency of Multimodal Interaction for A Map-Based Task	4/2000		Cohen VIII
83	Corradini, Andrea, Collaborative Integration of Speech and 3D Gesture	2004		Corradini
84	Corradini, Andrea, et al, A Map-based System Using Speech and 3D Gestures for Pervasive Computing	2002		Corradini II
85	Elting, Christian, et al, Architecture and implementation of multimodal plug and play	2003		Elting
86	Johnston, Michael, et al, Unification-based Multimodal Integration	1997		Johnston
87	Kaiser, Edward, et al, Implementation Testing of a Hybrid Symbolic-Statistical Multimodal Architecture	2002		Kaiser
88	McGee, David, et al, Confirmation in Multimodal Systems	1998		McGee
89	McGee, David, et al, Exploring Handheld, Agent-based, Multimodal Collaboration	1998		McGee II
90	McGee, David, et al, Something from nothing	4/2000		McGee III
91	McGee, David, et al, Use what you've got	2000		McGee IV
92	Novak, Miroslav, et al, Confidence measure driven scalable two-pass recognition strategy	2003		Novak
93	Oviatt, Sharon, Advances in Robust Multimodal Interface Design	2003		Oviatt

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue / Publication	Filing Date	Herein Referred As
94	Oviatt, Sharon, et al, Designing the User Interface for Multimodal Speech and Pen-based Gesture App	2004		Oviatt II
95	Oviatt, Sharon, et al, Multimodal Interfaces that Process What Comes Naturally	3/2000		Oviatt III
96	Oviatt, Sharon, Multimodal Signal Processing in Naturalistic Noisy Environments	2000		Oviatt IV
97	Oviatt, Sharon, Multimodal system processing in mobile environments	2000		Oviatt V
98	Oviatt, Sharon, Mutual Disambiguation of Recognition Errors	5/1999		Oviatt VI
99	Oviatt, Sharon, Taming recognition errors with a multimodal interface	9/2000		Oviatt VII
100	Oviatt, Sharon, Ten myths of multimodal interaction	11/1999		Oviatt VIII
101	Oviatt, Sharon, Multimodal interface research	9/2000		Oviatt IX
102	Rasch, Robert Incorporating AI into military decision making	8/2003		Rasch
103	Rasch, Robert, et al, AI on the Battlefield: an Experimental Exploration	2002		Rasch II
104	Turk, Matthew, et al Perceptual Interfaces	2003		Turk
105	Turk, Matthew, Multimodal interaction A review	2013		Turk II
106	Vanhoucke, Vincent, Confidence Scoring and Rejection using Multi-Pass Speech Recognition	2005		Vanhoucke
107	Wu, Lizhong, et al, From Members to Teams to Committee	7/2002		Wu
108	Wu, Lizhong, et al, Multimodal Integration - A Statistical View	12/1999		Wu II
109	Dragon NaturallySpeaking 5 Essentials Quick Start			Dragon
110	Dragon NaturallySpeaking 5 Professional User's Guide			Dragon II
111	Dragon NaturallySpeaking 5 Quick Start			Dragon III
112	Dragon NaturallySpeaking 5 standard User's Guide			Dragon IV
113	Dragon NaturallySpeaking 6 Professional User's Guide			Dragon V
114	Dragon NaturallySpeaking 6 Quick Start			Dragon VI
115	Dragon NaturallySpeaking 6 standard User's Guide			Dragon VII
116	Dragon NaturallySpeaking 7 User's Guide			Dragon VIII

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue / Publication	Filing Date	Herein Referred As
117	Dragon NaturallySpeaking 8 Quick Start			Dragon IX
118	Dragon NaturallySpeaking 8 User's Guide			Dragon X
119	Cook, Stephen, Speech-Recognition HOWTO	4/2002		Cook
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125	World of VoiceXML	12/2007		
126	History of Speech & Voice Recognition and Transcription Software			
127	History of Speech & Voice Recognition and Transcription Software Timeline			
128	Genesys IVR Interface Option 8.1 System Administrator's Guide	8/2012		Genesys
129	Genesys VoiceGenie 7.2 Speech Resource Management System Reference Guide	9/2007		Genesys II
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137	Gibbs, G., et al, IBM @server pSeries Sizing and Capacity Planning	3/2004		Gibbs
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No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue / Publication	Filing Date	Herein Referred As
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143	Maskeliunas, Rytis, et al, SALT - Markup Language for Speech-Enabled Web Pages	2005		Maskeliunas
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155	Intervoice InterSoft System Administration, 4th Edition	2003		
156	Intervoice InterSoft VoiceXML Browser Technical Reference, 8th Edition	4/2005		
157	Intervoice InVision Studio 2.4 Quick Reference (Design), 2nd Edition	5/2006		
158	Intervoice InVision Studio 2.6 Quick Reference (Design), 5th Edition	4/207		
159	Intervoice InVision Studio Quick Reference	3/2004		

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue / Publication	Filing Date	Herein Referred As
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161	Intervoice Product Documentation Quick Reference 12th Edition	11/2008		
162	Intervoice Setting Up SpeechAccess-Speechify 2.0, 5th Edition (V3.2)	6/2003		
163	Intervoice Troubleshooting InterSoft Systems, 2nd Edition	2003		
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166	Deng, Li., et al, Distributed Speech Processing in MiPads Multimodal User Interface	11/2002		Deng II
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170	MiPad - Microsoft Research			
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178	Myron, David, Nuance's Speech Splash	3/3004		Myron
179	Nuance 8.5 data sheet Nuance recognizer			
180	Nuance architecture diagram			
181	Nuance Speech Recognition System 8.5 Installation Guide	4/2004		
182	Nuance Speech Recognition System Grammar Developers Guide 7.0			
183	Nuances Speech Splash Nuance 8.5 release			

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue / Publication	Filing Date	Herein Referred As
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187	One Voice Corporate Update	6/2003		
188	U.S. 6,499,013 to Weber	12/24/2002	9/9/2998	Weber
189	W3C Pronunciation Lexicon Specification PLS 1.0	2/2005		
190	W3C Semantic Interpretation for Speech Recognition	11/2004		
191	W3C Speech Interface Implementations	2/2014		
192	W3C Speech Object specification 1.0 multimodal and ordered results	11/2000		
193	W3C Speech Recognition Grammar Specification Version 1.0	3/2004		
194	W3C Speech Synthesis Markup Language SSML Version 1.0	9/2004		
195	W3C State Chart SCXML State Machine Notation for Control Abstraction 1.0	7/2005		
196	W3C Voice Browser Call Control CCCML Version 1.0	6/2005		
197	W3C Voice Extensible Markup Language VoiceXML Version 2.0	3/2004		
198	W3C Voice Extensible Markup Language VoiceXML 2.1	6/2005		
199	Microsoft Eases Passport Fears, The Seattle Post	1/2003		
200	MSNBC: Press Release Voicebox	3/2004		
201	Proof is Now in Profits, Start-Ups are Finding, The Seattle Post	3/2003		
202	SoundAdvice gives voice to computers, USA Today	6/2003		
203	Speak Easy, Forbes	1/2003		
204	Start-Ups, Investors Both More Optimistic, The Seattle Post	6/2003		
205	Talk to this software; it will respond Interface Company profiles & personalities, The Seattle Times	5/2003		
206	Talktomepc launch article	10/2003		
207	The Seattle Times Business Profile Column: Voicebox Technologies	5/2003		
208	U.S. 7,398,209 to Kennewick	7/8/2008	6/3/2003	Kennewick II

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue / Publication	Filing Date	Herein Referred As
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210	Voicebox Business Solutions The Mobile Professional (Wayback)	2004		
211	VoiceBox Help			
212	Voicebox Home Solutions (Wayback)	2004		
213	Voicebox list of commands (Wayback)	2003		
214	Voicebox Press Release: Voicebox introduces Talking Tablet PCs and Smart Displays (Wayback)	1/2003		
215	Voicebox Press Release:Voicebox Introduces the Wireless Remote for State-of-the-Art Alternate Room Voice Access to the Web (Wayback)	1/2003		
216	Voicebox quickstart and troubleshooting	2003		
217	Voicebox talktomepc home page(Wayback)	2003		
218	VoiceBox Technologies Corporate Backgrounder: VoiceBox Introduces world's first commercially availabl Voice Information Retreival Software (Wayback)	2003		
219	VoiceBox Technologies Introduces a New Category of Computing:Voice Information Retrieval; 2003 International CFS, Business Wire	8/2003		
220	Voicebox The Future of Voice: A Techical Overview Part 1 (Wayback)	2004		
221	Voicebox tips and tricks	2003		
222	VoiceBox User's Guide			
223	VoiceBox Vehicle Solutions Telematics (Wayback)	2004		
224	Voicebox Voice Information Retrieval Software Smart Display Edition, Product Overview			
225	Voicebox_A Technical Overview Part II (Wayback)	2003		
226	Deng, Li, et al, Large-Vocabulary Speech Recognition Under Adverse Acoustic Environments	10/2000		
227	Huang, Xuedong, et al, Microsoft Windows Highly Intelligent Speech Recognizer: Whisper	1995		
228	Huang, Xuedong, et al, Spoken Language Processing	2001		
229	Jiang, Hui, et al, A Robust Training Strategy Against Extraneous Acoustic	2000		

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue / Publication	Filing Date	Herein Referred As
	Variations for Spontaneous Speech Recognition			
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231	Wang, Kuansan, A Detection Based Approach to Robust Speech Understanding	2004		
232	Wang, Kuansan, A Plan-Based Dialog System with Probabilistic Inferences	2000		
233	Wang, Kuansan, Implementation of a Multimodal Dialog System Using Extended Markup Languages	10/2000		
234	Wang, Kuansan, Semantic Modeling for Dialog Systems in a Pattern Recognition Framework	2001		
235	Wang, Kuansan, Semantic Object Synchronous Understanding in SALT for Highly Interactive User Interface	9/2003		
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240	Scannell, Ed, IBM dictation software package gives computers a voice	6/1992		
241	Cohen, Michael et al, Voice User Interface Design	2004		
242	Nuance Speech Recognition System Version 8.5 Grammar Developer's Guide			
243	Nuance Voice Platform Data Sheet	2003		
244	Telelogue Teams With Nuance To Launch A Voice-Driven Directory Assistance Service Bureau	2002		
245	SpeechWorks In Finance: The Competitive Advantage in Customer Care	2001		
246	SpeechWorks TALK ABOUT the power of speech: Bringing a Voice to Financial Services	2000		

B. Prior Art Apparatuses, Systems, and Inventions for All Asserted Claims

Defendant contends that the following systems and products are prior art under at least one or more of 35 U.S.C. § 102(a), (b), (e), (f), or (g) (pre-AIA) or § 102(a) (post-AIA), as applicable, and/or § 103.[3] Defendant's reference to any particular component, device, machine, or other product in these Invalidity Contentions should be interpreted as a reference to the product itself and any corresponding patents, publications, or product literature cited in Exhibits A-E that relate to the cited component, device, machine, or other product. Insofar as Defendant is relying on a system or product as prior art, rather than a publication, Defendant may use additional evidence to show the structure, function, operation and prior art status of that system or product insofar as that evidence is obtained during discovery and in a manner that is consistent with the invalidity theory disclosed in these Invalidity Contentions. At least some of the products were publicly disclosed, used, sold, or offered for sale in the United States before, and potentially more than a year before, the earliest priority date of the Asserted Claims of the Patents-in-Suit. Moreover, many of the inventive research, design, and development activities concerning these products and technologies occurred in the United States before the earliest priority date of the Asserted Claims of the Patents-in-Suit.

[3] A reference to a version of a commercial product or system is also a reference to any earlier or later version of the commercial product or system that qualifies as prior art to an Asserted Claim.

Prior Art Apparatuses / Systems / Inventions / Services	Persons/Entities Involved in Prior Use, Sale, and/or Offers for Sale
VoiceBox System[4]	VoiceBox Technologies designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system at least as early as 2003, as evidenced at least by the documents identified herein.
IBM ViaVoice and WebSphere System[5]	IBM designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system at least as early as 1997, as evidenced at least by the documents identified herein.
Microsoft MiPad System[6]	Microsoft designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system at least as early as 2000, as evidenced at least by the documents identified herein.
Dragon NaturallySpeaking System[7]	Dragon Systems designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system at least as early as 2000, as evidenced at least by the documents identified herein.
W3C Standards[8]	Systems implementing the W3C standards were designed, developed, used, advertised, published, and also offered for sale and/or sold to customers, potential customers, and other third parties at least as early as 2004, as evidenced at least by the documents identified herein.
InterSoft System[9]	Intervoice, Inc. designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system at least as early as 2003, as evidenced at least by the documents identified herein.
Nuance Speech Recognition Systems[10]	Nuance Communications, Inc. designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system at least as early as 2004, as evidenced at least by the documents identified herein.

[4] The VoiceBox System includes, but is not limited to, prior art reference item nos. 199-225, 11, 45, and 187 identified in the above table of Section III.A.

Genesys VoiceGenie System[11]	Genesys Telecommunications Laboratories, Inc. designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system at least as early as 1997, as evidenced at least by the documents identified herein.
Telelogue System[12]	Telelogue, Inc. designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system at least as early as 2002, as evidenced at least by the documents identified herein.
SpeechWorks System[13]	SpeechWorks International, Inc. designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system at least as early as 2000, as evidenced at least by the documents identified herein.

Each of these systems anticipates and/or renders obvious one or more of the Asserted Claims of the Patents-in-Suit as set forth in the associated chart, and/or forms part of the state of the art that was well understood to those of skill in the art as of the respective priority dates of the Asserted Patents. Defendant relies on the references cited above at least as evidence of the

[5] The IBM ViaVoice and WebSphere System includes, but is not limited to, prior art reference item nos. 130-153 and 240 identified in the above table of Section III.A.
[6] The Microsoft MiPad System includes, but is not limited to, prior art reference item nos. 164-173, 226-239, and 41 identified in the above table of Section III.A.
[7] The Dragon NaturallySpeaking System includes, but is not limited to, prior art reference item nos. 109-118 and 32 identified in the above table of Section III.A.
[8] The W3C Standards System includes, but is not limited to, prior art reference item nos. 189-198 and 125 identified in the above table of Section III.A.
[9] The InterSoft System includes, but is not limited to, prior art reference item nos. 154-163 identified in the above table of Section III.A.
[10] The Nuance Speech Recognition Systems includes, but is not limited to, prior art reference item nos. 174-184 and 241-243 identified in the above table of Section III.A.
[11] The Genesys VoiceGenie System includes, but is not limited to, prior art reference item nos. 128-129 identified in the above table of Section III.A.
[12] The Telelogue System includes, but is not limited to, prior art reference item nos. 122 and 244 identified in the above table of Section III.A.
[13] The SpeechWorks System includes, but is not limited to, prior art reference item nos. 245-246 and 186 identified in the above table of Section III.A.

functionality of the associated system. Defendant also reserves the right to rely on each of the references cited above as itself anticipating or rendering obvious, alone or in combination with any other prior art in the associated charts, the Asserted Claims.

Defendant does not yet have complete information regarding the dates by which these systems were publicly disclosed, made, used, sold, or offered for sale, the circumstances under which the research, design, and development activities were conducted, and the identities of the particular individuals involved in such activities. Defendant anticipates that the actual dates, circumstances, and identities of individuals will be the subject of third-party discovery during this lawsuit. Defendant therefore reserves the right to amend and/or supplement their Invalidity Contentions and associated charts if additional information becomes available during the course of discovery. The date the prior art systems cited herein were "offered for sale or publicly used or known," as well as "the date the offer or use of the item took place or the information became known" is at least as early as the date the related publications were published. The "identity of the person or entity which made the use or which made and received the offer, or the person or entity which made the information known or to whom it was made known" includes at least those persons associated with the publication(s) or other documents associated with each prior art system, including those identified in the claim charts. Defendant also reserves the right to rely on the public use, offer for sale, or sale of the systems and products described in the publications identified herein or in Exhibits A-E after Defendant has had a fair opportunity to take discovery on these subjects.

C. Applicants Admitted Prior Art (AAPA)

In addition to the prior art identified above and charted in the accompanying claim charts, Defendant intends to rely on applicants admitted prior art (AAPA) in each Asserted Patent as part of the state of the art that was well known to those of skill in the art at the time of the respective priority dates of the Asserted Patents. For example, the Asserted Patents admit various problems, as well as devices and methods for addressing those problems, were well known to those of skill in the art. Examples of these problems, devices, and methods disclosed in the Asserted Patents include the following:

1. Example AAPA of the ’160 and ’039 Patents[14]

- ’160 Patent at 1:35–38 (“[s]peech recognition has steadily improved in accuracy and today is successfully used in a wide range of applications,” and “[n]atural language processing has been applied to the parsing of speech queries.”)
- ’160 Patent at 3:25–28 (“the computer devices or systems may comprise stand alone or networked PCs, personal digital assistants (PDAs), cellular telephones, or other computer devices or systems”)
- ’160 Patent at 4:17–18 (“the system may simulate some aspects of a human ‘personality’”)
- ’160 Patent at 6:32–37 (invention will “simulate the behavioral characteristics of real humans” and “also randomizes aspects of responses, just as a real human would do”)
- ’160 Patent at 7:31–38 (“The system may be used in conjunction with a wide range of platform environments. These environments may include, as a peripheral to a PC, a portable or wearable computer or other computer, embedded in a PC or other computer, on a personal digital assistant, such as a PDA with wireless networking capability, . . . on a wireless telephone, or other platforms.”)
- ’160 Patent at 7:45–47 (“the system may be deployed in a network of devices that use a common base of agents, data, information, user profiles and histories”)
- ’160 Patent at 8:6–8 (“This process may simulate the manner in which a human would address multiple questions from various sources.”)
- ’160 Patent at 11:37–39 (“Agents 106 may include a collection of grammars, criteria

[14] These patents share a common specification and therefore only one citation will be given for these patents.

handlers, and algorithms that are accessed to respond to a set of requests and/or commands.")

2. Example AAPA of the '468, '607, and '957 Patents[15]

- '468 Patent at 1:29–31 (non-speech input is conventional, including "[c]onventional computer interfaces [that] use some combination of keyboards, keypads, point and click techniques and touch screen displays.")
- '468 Patent at 1:62–66 ("[s]peech recognition has steadily improved in accuracy and today is successfully used in a wide range of applications," and "[n]atural language processing has been applied to the parsing of speech queries.")
- '468 Patent at 3:46–49 ("the system may be deployed in a network of devices that share a common base of agents, data, information, user profiles, histories or other components")
- '468 Patent at 5:36–37 ("the system may simulate some aspects of a human 'personality'")
- '468 Patent at 5:58–59 ("The invention may be applied as a user interface to telematics systems in a wide variety of environments.")
- '468 Patent at 7:62–67 (invention will "simulate the behavioral characteristics of real humans" and "also randomizes aspects of responses, just as a real human would do")
- '468 Patent at 8:34–36 ("This process may simulate the manner in which a human would address multiple questions from various sources.")
- '468 Patent at 21:58–59 ("known systems may perform a follow-up search . . .")
- '468 Patent at 23:26–35 ("The telematic natural language interface may be deployed as part of, or a peripheral to a TCU or other mobile devices 36, as part of a mobile device interfaced to vehicle computers and other mobile system[s] . . . . Alternatively, the

[15] These patents share a common specification and therefore only one citation will be given for these patents.

components of the interactive natural language telematic interface may be distributed in any suitable manner between these multiple computing platforms.")

- '468 Patent at 25:32–34 ("Agents 106 may include a collection of grammars, criteria handlers, and algorithms that are accessed to respond to a set of requests and/or commands.")
- '468 Patent at 31:67 (a "conventional microphone" may receive an utterance)
- '468 Patent at 8:28–31, 11:47–53, 13:44–46

D. Prior Art Under 35 U.S.C. § 102(f)

Discovery is ongoing, and Defendant reserves the right to assert any of the other preceding items of prior art under 35 U.S.C. § 102(f), especially with respect to items of prior art where further investigation reveals that the purported inventors of the Patents-in-Suit derived the purported invention from the prior art and/or the author(s), maker(s), or inventor(s) of the prior art.

E. Prior Art Under 35 U.S.C. § 102(g)

The patents, publications, systems, and other prior art to the Patents-in-Suit identified in these contentions were conceived by another and diligently reduced to practice before the conception and reduction to practice of the Asserted Claims of the Patents-in-Suit by the named inventors of those patents, and Defendant alleges that such prior art by the individuals named as authors and inventors on the prior art, as well as by the companies for which they worked, invalidate the Plaintiff's Patent-in-Suit under 35 U.S.C. § 102(g).

IV. PATENT L.R. 3-3(B)

Pursuant to P.R. 3-3, Defendant contends that certain prior art references below anticipate one or more Asserted Claims and that to the extent the identified prior art references do not anticipate the Asserted Claims, those claims are invalid as obvious under 35 U.S.C. § 103. Each anticipatory prior art reference, either alone or in combination with other prior art, also renders the

Asserted Claims invalid as obvious. In particular, each anticipatory prior art reference may be combined with (1) information generally known to persons skilled in the art at the time of the alleged invention, and/or (2) any of the other anticipatory prior art references. To the extent that Plaintiff contends that any of the anticipatory prior art fails to disclose one or more limitations of the Asserted Claims, Defendant contends that any difference between the reference and the corresponding patent claims would have been obvious to one of ordinary skill in the art. Thus, all statements regarding anticipation should be interpreted as both reflecting anticipation by the reference as well as invalidity due to single reference obviousness, to the extent that Plaintiff contends that any limitation is missing.

A. Anticipation of All Asserted Claims of All Asserted Patents

As stated above, Defendant incorporates by reference all other invalidity contentions related to the Asserted Patents served on or otherwise provided to Plaintiff, whether past or future. In accordance with P.R. 3-3(b) and 3-3(c), prior art references anticipating the Asserted Claims are provided below.

Subject to Defendant's reservations of rights and in accordance with Patent L.R. 3-3(b) and 3-3(c), Defendant contends that each of the following prior art references anticipates one or more of the Asserted Claims of the Asserted Patents in accordance with the claim charts attached hereto as Exhibits A-E.

- Acero
- Bennett
- Wang-954
- Wang-499
- Maes
- Lee-306
- Portman

- Bangalore
- Farmaner
- Kennewick
- Weissman
- Dominach
- Ross
- Coffman
- Lee-315
- Lyudovyk
- VoiceBox System
- IBM ViaVoice and WebSphere System
- Microsoft MiPad System
- Dragon NaturallySpeaking System
- W3C Standards
- Nuance Speech Recognition Systems
- Telelogue System

Additionally, Defendant incorporates by reference each of the grounds of invalidity presented in at least the following IPR and/or reexamination proceedings pending before the United States Patent and Trademark Office and any additional proceedings before the United States Patent and Trademark Office that may be filed challenging the patentability of any of the Asserted Patents or the Related Patents:

- IPR2024-00751 against the ’607 Patent;
- IPR2024-00753 against the ’160 Patent; and
- Reexamination Control No. 90/015,303 against the ’957 Patent. Defendant also incorporates.

B. Obviousness

As stated above, Defendant incorporates by reference all other invalidity contentions related to the Asserted Patents served on or otherwise provided by or to Plaintiff, whether past or in the future. In addition to certain claims being anticipated under Plaintiff's apparent claim constructions as indicated above, the Asserted Claims are also invalid as obvious over the same teachings identified for anticipation. Further, the Asserted Claims are obvious over various combinations of the references shown in the claim charts accompanying or incorporated by reference into this disclosure. No Asserted Claim goes beyond combining familiar elements in known methods to achieve predictable results or does more than choose between clear alternatives known to those of skill in the art. Thus, to the extent that an Asserted Claim is not anticipated, it is nevertheless invalid as obvious. Specifically, Defendant asserts that any charted or incorporated reference in combination with one or more other charted or incorporated references renders the Asserted Claims obvious.

Motivations to combine, as well as the general state of the art, may be found in a variety of places including in the references defined above, and the specification of the Asserted Patents. A person of ordinary skill in the art at the time of the alleged invention(s) ("POSITA") would have been motivated to combine any one piece of identified prior art with any other identified piece of prior art. For at least these reasons, it would have been obvious to a person of skill in the art at the time of the alleged invention of the Asserted Claims to combine the various references cited herein so as to practice the Asserted Claims and there is a motivation in the art to make such a combination.

Motivations to combine various prior art references are present in the references themselves, the common knowledge of one of ordinary skill in the art, the prior art as a whole, or the nature of the problems allegedly addressed by the Asserted Patents. Further reasons to combine the references identified in these charts include common sense, the nature of the problem being solved, the express, implied and inherent teachings of the prior art, the knowledge of persons of ordinary skill in the art, the fact that the prior art is generally directed towards methods and systems in the same field, that such combinations would have yielded predictable results, and that such combinations would have represented known alternatives to a person of ordinary skill in the art.

In *KSR International Co. v. Teleflex, Inc.*, the United States Supreme Court held that, among other things, "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." 127 S. Ct. 1727, 1739 (2007); *see also id.* at 1731 ("[A] court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions."). In particular, a patent is obvious where "the content of the prior art, the scope of the patent claim, and the level of ordinary skill are not in material dispute, and the obviousness of the claim is apparent in light of these factors." *Id.* at 1745–46. The Supreme Court found that "if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *Id.* at 1731.

Moreover, the Court recognized that market pressures will motivate a person of ordinary skill to survey known art for solutions to problems. *Id*. at 1732 ("When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp."). When a person of ordinary skill uses an identified, predictable solution to solve a problem, "it is likely the product not of innovation but of ordinary skill and common sense." *Id*.

In addition, when a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. *Id*. at 1740. If a person of ordinary skill can implement a predictable variation, U.S.C. § 103 bars its patentability. *Id*. The rationale to combine or modify prior art references is significantly stronger when references seek to solve similar problems, come from the same field, and correspond well. *In re Inland Steel Co.*, 265 F.3d 1354, 1362 (Fed. Cir. 2001).

Although the law does not require evidence of motivation to combine, motivation exists to combine one or more of the references disclosed herein with each other. In addition to the exemplary motivations identified herein, motivation to modify a particular reference or to combine any two or more of the identified references comes from (a) the nature of the problem being solved, (b) the teachings of the prior art, (c) the knowledge of persons of ordinary skill in the art, (d) the fact that all of the references teach systems, apparatuses, and methods related to the subject matter and address the same technical issues described in the Asserted Patents, and (e) one would be motivated by considerations of efficiency, effectiveness, convenience, cost-savings, and accessibility to combine the various teachings. Additionally, one would be motivated to address the alleged problems or achieve the purported objectives identified in the Background sections of the Asserted Patents.

To the extent not anticipated, the Asserted Claims represent no more than the result of ordinary implementation of the prior art. Moreover, no showing of a specific motivation to combine prior art is required to combine the references disclosed above and in the attached charts, as each combination of art would have no unexpected results, and at most would simply represent an alternative to one of skill in the art. *See KSR*, 127 S.Ct. at 1739-40 (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test, instead espousing an "expansive and flexible" approach). Indeed, the Supreme Court held that a person of ordinary skill in the art is "a person of ordinary creativity, not an automaton" and "in many cases a person of ordinary skill in the art will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 1742. Nevertheless, in keeping with the Local Patent Rules, and in addition to the information contained in the section immediately above and elsewhere in these contentions, additional motivation and reason to combine the cited art are identified. A person having ordinary skill in any or all of these fields would be aware of all prior art in those fields, including but not limited to the identified prior art references and systems, and would have been motivated to combine the teachings of prior art with the field.

In sum, motivations to modify or combine the identified references including the references listed above can be found via, for example, discussions in the cited references, the state of the art discussed in the references, and the knowledge of one of ordinary skill in the art. One of ordinary skill in the art would have been motivated to combine these references because these references relate to common objectives and subject matter. The references share commonalities in terms of their general subject matter as well as the types of equipment, products, systems, modules, software, and/or methods used. Further, the prior art references explicitly or implicitly reference other prior art references, share common authors or inventors, were published in the same journals, were compiled by a common author of a compilation or reference book, were presented at the same conferences, and/or were developed at common companies, schools, or organizations which would motivate one of skill in the art to combine them. These references are within the field of the Asserted Patents and are directed to similar subject matter within the field. Additionally, the references, and any products, devices, or processes described in the references, existed and/or were invented in the same time period providing further motivation for combination. These disclosures were provided without prejudice to any arguments or objections concerning the relevance of motivation to combine in connection with any invalidity contentions.

Defendant reserves the right to further specify the motivations to combine the prior art in response to positions that Plaintiff may take later in this case and as discovery, including third party discovery, proceeds. Defendant may rely on any and all portions of the prior art, other documents, and expert testimony to establish that a person of ordinary skill in the art would have been motivated to modify or combine the prior art so as to render the claims invalid as obvious.

While Defendant reserves the right to rely on any combination of the references reflected in the charts or incorporated herein by reference, Defendant provided the following exemplary and non-exhaustive list of references and/or combinations evidencing invalidity of the claims of the Asserted Patents.

For at least the reasons described in these contentions, it would have been obvious to one of ordinary skill in the art to combine any of a number of prior art references, including any combination of those prior art references identified above, along with the knowledge of one of ordinary skill in the art to meet the limitations of the Asserted Claims. Moreover, as mentioned above, Defendant has not yet completed their search or discovery concerning additional prior art. As such, Defendant's inclusion of exemplary combinations does not preclude them from identifying other invalidating combinations as appropriate, and Defendant reserves the right to identify additional specific combinations as well as to detail and explain such combinations.

To the extent not anticipated, the Asserted Claims represent no more than the result of ordinary variations of the prior art. Defendant further believes that no showing of a specific motivation to combine prior art is required to combine the references disclosed above and in the attached charts, as each combination of art would have no unexpected results, and at most would simply represent a known alternative to one of skill in the art. *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 415-16 (2007) (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test, instead espousing an "expansive and flexible" approach). Indeed, the Supreme Court held that a person of ordinary skill in the art is "a person of ordinary creativity, not an automaton" and "in many cases a person of ordinary skill in the art will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420-21. Nevertheless, in addition to the information contained elsewhere in these contentions, Defendant identifies motivations and reasons to combine the cited art.

One or more combinations of the prior art references identified above would have been obvious because these references would have been combined using: known methods to yield predictable results; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or a teaching, suggestion, or motivation in the prior art generally. In addition, it would have been obvious to try combining the prior art references identified above because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. Further, the combinations of the prior art references identified above would have been obvious because the combinations represent known potential options with a reasonable expectation of success.

Additional evidence that there would have been a motivation to combine the prior art references identified above includes the interrelated teachings of multiple prior art references; common authorship; the effects of demands known to the design community or present in the marketplace; the existence of a known problem for which there was an obvious solution encompassed by the Asserted Claims; the existence of a known need or problem in the field of the endeavor at the time of the alleged invention(s); and the background knowledge that would have been possessed by a person having ordinary skill in the art.

Thus, the motivation to combine the teachings of the prior art references disclosed above are found in the references themselves and also in: (1) the nature of the problem being solved; (2) the express, implied and inherent teachings of the prior art; (3) the knowledge of persons of ordinary skill in the art; (4) the predictable results obtained in combining the different elements of the prior art; (5) the predictable results obtained in simple substitution of one known element for another; (6) the use of a known technique to improve similar devices, methods, or products in the same way; (7) the predictable results obtained in applying a known technique to a known device, method, or product ready for improvement; (8) the finite number of identified predictable solutions that had a reasonable expectation of success; and (9) known work in various technological fields that could be applied to the same or different technological fields based on design incentives or other market forces.

Additionally, it would be obvious to one of skill in the art to consult and/or combine any of the prior art listed above because all of these references relate to the same area of technology and/or are from analogous art. The Asserted Claims only unite old elements, well known in the field, with no change in their respective function. Given the interrelated teachings of the prior art, the effects of demands known to the design community or present in the marketplace, and the background knowledge possessed by a person having ordinary skill in the art, it would have been obvious for one of ordinary skill in the art to combine these familiar elements, disclosed and/or embodied in the prior art listed above to practice the Asserted Claims.

In accordance with these advances, the prior art could have been combined according to methods known to those of ordinary skill within the technical fields of the Asserted Patents to yield predictable results. The substitution of one element in these fields could have been predictably achieved by one of ordinary skill at the time of the alleged inventions. One of ordinary skill in the art would have been aware of these various methods and apparatuses, and would have been able to select appropriate attributes of one for inclusion in another. Those of ordinary skill in the art could have employed known techniques to improve similar prior art devices in the same way as claimed in the Asserted Patents.

In addition, the prior art also provided sets of finite, identified, predictable solutions for known problems that would have been obvious to those of ordinary skill to try with a reasonable expectation of success. In addition, the prior art provided multiple teachings, suggestions, and motivations that would have led one of ordinary skill to modify or to combine prior art teachings to arrive at systems and methods purportedly covered by the asserted claims, as can be found in the references themselves.

The prior art references provide motivations to combine because they describe the field of the Asserted Patents, teach improvements, explain desired features, and even expressly state that one of skill in the art would be able to apply their teachings to related systems or methods.

Any reference or combination of references that anticipates or makes obvious an asserted independent claim also makes obvious any asserted claim dependent on that independent claim, as the element of each dependent Asserted Claim was known by a person of ordinary skill at the time of the alleged invention, and it would have been obvious to combine those known elements with the independent claims at least as a matter of common sense and routine innovation. Accordingly, Defendant contends that each Asserted Claim would have been obvious not only by the combinations described in these contentions, but also by any combination of references that renders obvious an Asserted Claim.

In addition to the obviousness rationales provided below and/or that are set out in the Exhibits A-E, Defendant reserves the right to rely on the disclosures of the references listed above for additional obviousness rationales. The below-identified examples of combinations are given merely to illustrate various obviousness rationales and are not intended to provide an exhaustive list of every possible combination to which the obviousness rationale may apply. Defendant reserves the right to contend that the above and below described obviousness rationales apply to other combinations at the appropriate time, i.e., in expert reports regarding invalidity.

1. Obviousness Rationales Applicable to All Patents

A person having ordinary skill in the art at the time of filing of the Asserted Patents would have understood the references listed above, alone or in combination, to contain explicit and/or implicit teaching, suggestion, and/or rationales to combine them for at least the following reasons.

The combinations of references provided in the accompanying prior art reference charts for each Asserted Claim of each Asserted Patent, are examples and are not intended to be exhaustive. Additional obviousness combinations of the references identified here are possible, and Defendant may rely on such combination(s) in this litigation. In particular, Defendant is unaware of the extent, if any, to which Dialect may contend that limitations of the claims at issue are not disclosed in the prior art identified by Defendant as anticipatory, and the extent to which Dialect will contend that elements not disclosed in the asserted patent specifications would have been known to persons of skill in the art. Defendant is also awaiting third-party discovery and is continuing its investigation of the large universe of prior art to identify potential prior art systems, publications related to those systems, and additional third-parties that may have information about those systems. Defendant reserves the right to supplement these contentions to identify other prior art and combinations that would have made such limitations obvious.

The references listed above, alone or in combination, contain an explicit and/or implicit teaching, suggestion, and/or reasons to combine them for at least the following reasons.

Interactive Speech Prior Art. The Asserted Claims are invalid in view of any combination of references related to interactive speech technology (which includes speech recognition, interpreting natural language inputs, and generating responses), including, for example, Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, Lyudovyk, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, and Telelogue System (collectively, "Interactive Speech Prior Art"). A person having ordinary skill in the art would have been motivated to combine any of the Interactive Speech Prior Art.

The Interactive Speech Prior Art describe a number of benefits that were known to persons of skill in the art. For example, the Interactive Speech Prior Art disclose identifying the context of the user's utterance to allow users to interact with a system in a natural way that is consistent with how they already interact with others using speech to direct or control the system. This eliminates the need to train the system or memorize commands, and enables the system to access and retrieve information, perform tasks, complete transactions, and present information to the user in a way that reduces the number of interactions between the user and the system. *See, e.g.*,:

- Acero at Abstract; [0007]; [0015]; [0040]; [0044]-[0047]; [0050]-[0053]; [0055]; [0071]; [0074]; [0079]; [0082]-[0089]; [0095]-[0117]; [0124]-[0132]; [00137]; [0141]; [0143]; and Figs. 1-14;
- Bennett at Abstract; [0007]; [0030]; [0075-76]; [0081]; [0089]-[0092]; [0127]-[0133]; [0138]; [0149]; [0172]; [0176]; [0237]; [0239]; [0249]; [0258-259]; [0268]; [0270]; [0288]-[0289]; [0302]-[0305]; [0307]; [0311]; [0328]-[0332]; [0383]; and Figs. 1, 10, and 12;
- Wang-954 at Abstract; [0024]; [0027]; [0031]; [0042]; [0048]-[0063]; [0068]; [0071]-[0075]; [0082]; claims 10 and 24; and Figs. 2, 5, 8-10;
- Wang-499 at [0002]; [0012]-[0016]; [0026]-[0028]; [0037]; [0044]; [0156]-[0157]; [0163]; [0166]; [0219]; [0233]; [0257]-[0262]; [0332]; [0335]; [0342]; [0349-350]; [0377]-[0380]; [0402]-[0410]; [0417]; [0424]; [0426]; claim 25; and Figs. 1B, 8, 22, 32, 39B, 40B, 41;
- Maes at Abstract: 3:66-4:21; 4:62-5:19; 5:57-9:28; 10:8-29; 10:47-11:1; 11:8-13:15; 18:42-21:30; 21:43-22:67; 23:10-23; 23:44-25:3; 26:39-53; 28:11-35; 29:22-34:11; 34:34-58; 35:3-37:3; 37:17-38:37; 39:14-40:10; 41:35-43:2; 45:17-60; and Figs. 1-9;
- Lee-306 at Abstract; [0005]; [0009]; [0012]; [0014]-[0016]; [0020]-[0022]; and Fig. 1;
- Portman at [0011]; [0013]; [0019]; [0024]; [0026]-[0027]; [0029]; [0037]; [0046]-[0050]; [0054]; [0062]-[0066]; [0070]-[0072]; [0078]-[0082]; [0087]; [0093]; [0096]; and claim 35-38;

- Bangalore at Abstract; [0077]; [0081]-[0104]; [0108-113]; and Figs. 5-10;
- Farmaner at 2:55-3:21; 10:30-41; 15:10-16:50; 17:17-30; 19:1-58; 20:9-24; and Figs. 3-6;
- Kennewick at Abstract; [0010]; [0029]; [0032-33];[0036]; [0045]; [0080]; [0083]; [0085-86]; [0088]; [0108]; [0114]; [0145]; [0147]; [0149-155]; [0161-164]; [0166-171]; [0173]; [0185-187]; [0188]; and Figs. 1, 2, 3, 4B, 5, and 6;
- Lyudovyk at Abstract; [0002]-[0011]; [0015]-[0021]; [0022]-[0029]; [0034]-[0036]; [0041]; [0044]-[0049]; [0051-52]; [0066]; [0078]; [0085]; [0095]; and Figs. 1-2;
- Weissman at Abstract; Fig. 1; Fig. 2; Fig. 3; Fig 4; 2:55-3:7; 3:10-20; 3:21-34; 3:35-53; 6:31-46; 6:47-59; 7:9-13; 7:14-22; 7:24-35; 7:43-50; 7:51-65; 8:42-46; 8:55-65; 9:24-38; 9:51-55; 9:57-64; 10:28-40; 12:39-51;
- Dominach at Abstract; 2:53-67; 3:1-16; 3:37-47; 4:44-48;
- Ross at Abstract; 1:23-46; 2:49-50; 2:50-54; 2:58-61; 3:45-48; 3:50-52; 5:28-33; 5:34-43; 5:43-48; 5:65-6:3; 6:12-18; 6:40-53; 7:16-34; 7:46-54; 8:37-45; 9:7-9;
- Coffman at 4:6-26; 4:47-64; 5:8-30; 6:56-67; 8:33-63; 11:27-45; 12:13-43; 14:42-56; 15:50-16:17; 16:29-33; 20:22-26; 21:45-50; 22:5-46; 27:51-28:57; 29:1-13; 30:10-19; 30:36-50; 31:23-67; 32:3-47; 34:31-35:3; 35:44-53; 36:4-16; 37:52-38:7; 41:29-34; 42:1-39; 42:58-43:6; and Figs. 4 and 6;
- Lee-315 at Abstract; Claim 6; [0015-18]; [0020]; [0022]; [0024-27]; [0029-34]; and Fig. 1, 2 and 3; and
- Exemplary citations in Exhibits A-E to VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, and Telelogue System.

Persons having ordinary skill in the art were aware of the interactive speech technology before the earliest priority date of the Asserted Patents. *See, e.g.*,:

- Acero at Abstract; [0007]; [0015]; [0040]; [0044]-[0047]; [0050]-[0053]; [0055]; [0071]; [0074]; [0079]; [0082]-[0089]; [0095]-[0117]; [0124]-[0132]; [00137]; [0141]; [0143]; and Figs. 1-14;
- Bennett at Abstract; [0007]; [0030]; [0075-76]; [0081]; [0089]-[0092]; [0127]-[0133]; [0138]; [0149]; [0172]; [0176]; [0237]; [0239]; [0249]; [0258-259]; [0268]; [0270]; [0288]-[0289]; [0302]-[0305]; [0307]; [0311]; [0328]-[0332]; [0383]; and Figs. 1, 10, and 12;
- Wang-954 at Abstract; [0024]; [0027]; [0031]; [0042]; [0048]-[0063]; [0068]; [0071]-[0075]; [0082]; claims 10 and 24; and Figs. 2, 5, 8-10;
- Wang-499 at [0002]; [0012]-[0016]; [0026]-[0028]; [0037]; [0044]; [0156]-[0157]; [0163]; [0166]; [0219]; [0233]; [0257]-[0262]; [0332]; [0335]; [0342]; [0349-350]; [0377]-[0380]; [0402]-[0410]; [0417]; [0424]; [0426]; claim 25; and Figs. 1B, 8, 22, 32, 39B, 40B, 41;
- Maes at Abstract: 3:66-4:21; 4:62-5:19; 5:57-9:28; 10:8-29; 10:47-11:1; 11:8-13:15; 18:42-21:30; 21:43-22:67; 23:10-23; 23:44-25:3; 26:39-53; 28:11-35; 29:22-34:11; 34:34-58; 35:3-37:3; 37:17-38:37; 39:14-40:10; 41:35-43:2; 45:17-60; and Figs. 1-9;
- Lee-306 at Abstract; [0005]; [0009]; [0012]; [0014]-[0016]; [0020]-[0022]; and Fig. 1;
- Portman at [0011]; [0013]; [0019]; [0024]; [0026]-[0027]; [0029]; [0037]; [0046]-[0050]; [0054]; [0062]-[0066]; [0070]-[0072]; [0078]-[0082]; [0087]; [0093]; [0096]; and claim 35-38;
- Bangalore at Abstract; [0077]; [0081]-[0104]; [0108-113]; and Figs. 5-10;
- Farmaner at 2:55-3:21; 10:30-41; 15:10-16:50; 17:17-30; 19:1-58; 20:9-24; and Figs. 3-6;
- Kennewick at Abstract; [0010]; [0029]; [0032-33];[0036]; [0045]; [0080]; [0083]; [0085-86]; [0088]; [0108]; [0114]; [0145]; [0147]; [0149-155]; [0161-164]; [0166-171]; [0173]; [0185-187]; [0188]; and Figs. 1, 2, 3, 4B, 5, and 6;

- Lyudovyk at Abstract; [0002]-[0011]; [0015]-[0021]; [0022]-[0029]; [0034]-[0036]; [0041]; [0044]-[0049]; [0051-52]; [0066]; [0078]; [0085]; [0095]; and Figs. 1-2;
- Weissman at Abstract; Fig. 1; Fig. 2; Fig. 3; Fig 4; 2:55-3:7; 3:10-20; 3:21-34; 3:35-53; 6:31-46; 6:47-59; 7:9-13; 7:14-22; 7:24-35; 7:43-50; 7:51-65; 8:42-46; 8:55-65; 9:24-38; 9:51-55; 9:57-64; 10:28-40; 12:39-51;
- Dominach at Abstract; 2:53-67; 3:1-16; 3:37-47; 4:44-48;
- Ross at Abstract; 1:23-46; 2:49-50; 2:50-54; 2:58-61; 3:45-48; 3:50-52; 5:28-33; 5:34-43; 5:43-48; 5:65-6:3; 6:12-18; 6:40-53; 7:16-34; 7:46-54; 8:37-45; 9:7-9;
- Coffman at 4:6-26; 4:47-64; 5:8-30; 6:56-67; 8:33-63; 11:27-45; 12:13-43; 14:42-56; 15:50-16:17; 16:29-33; 20:22-26; 21:45-50; 22:5-46; 27:51-28:57; 29:1-13; 30:10-19; 30:36-50; 31:23-67; 32:3-47; 34:31-35:3; 35:44-53; 36:4-16; 37:52-38:7; 41:29-34; 42:1-39; 42:58-43:6; and Figs. 4 and 6;
- Lee-315 at Abstract; Claim 6; [0015-18]; [0020]; [0022]; [0024-27]; [0029-34]; and Fig. 1, 2 and 3; and
- Exemplary citations in Exhibits A-E to VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, and Telelogue System.

Accordingly, the Interactive Speech Prior Art was known work in the field of computer technology. Design incentives or other market forces, such as improving the ability of speech systems to understand context and to reduce the number of user interactions, would have motivated a POSITA to incorporate features taught by such prior art in predictable ways to solve problems associated with improving human interaction with spoken language understanding systems. Combinations with the Interactive Speech Prior Art would (1) involve the combination of known methods (e.g., speech recognition, interpretation, and generating a response) to yield predictable results (e.g., a computer system that is accessible by interactive speech) and/or (2) involve the use of these known techniques (e.g., improving interactive speech through recognition of context) to improve similar computer systems in the same way.

Interactive Speech Architecture Prior Art. The Asserted Claims are also invalid in view of any combination of references that disclose similar architectures for implementing interactive speech systems, which include components such as a voice input device (such as a microphone), a component for automatic speech recognition to recognize the words of a user's utterance, a component for natural language understanding to interpret the recognized words, a component for performing an action based on the interpretation, and an output device that presents a response to the user, including, for example, Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, Lyudovyk, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, and Telelogue System (collectively, "Interactive Speech Architecture Prior Art").

The Interactive Speech Architecture Prior Art describe a number of architectures that were known to persons of skill in the art. A person of skill would have understood the benefits of these architectures and would have been motivated to combine features of different architectures in designing and building a speech application, including each of the components listed above. From a functional perspective, for example, a person of skill would have found incorporating components such as those for automatic speech recognition and natural language understanding modules to be beneficial for at least the reasons identified above regarding Interactive Speech Technology as reflected in the Interactive Speech Prior Art. From a more technical perspective, a well-known design pattern for building interactive speech systems was to construct them modularly so that functionality could be distributed across various components. A person of skill would have been able to incorporate these modular components into different systems. *See, e.g.*,:

- Acero at Abstract; [0007]; [0015]; [0040]; [0044]-[0047]; [0050]-[0053]; [0055]; [0071]; [0074]; [0079]; [0082]-[0089]; [0095]-[0117]; [0124]-[0132]; [00137]; [0141]; [0143]; and Figs. 1-14;
- Bennett at Abstract; [0007]; [0030]; [0075-76]; [0081]; [0089]-[0092]; [0127]-[0133]; [0138]; [0149]; [0172]; [0176]; [0237]; [0239]; [0249]; [0258-259]; [0268]; [0270]; [0288]-[0289]; [0302]-[0305]; [0307]; [0311]; [0328]-[0332]; [0383]; and Figs. 1, 10, and 12;
- Wang-954 at Abstract; [0024]; [0027]; [0031]; [0042]; [0048]-[0063]; [0068]; [0071]-[0075]; [0082]; claims 10 and 24; and Figs. 2, 5, 8-10;
- Wang-499 at [0002]; [0012]-[0016]; [0026]-[0028]; [0037]; [0044]; [0156]-[0157]; [0163]; [0166]; [0219]; [0233]; [0257]-[0262]; [0332]; [0335]; [0342]; [0349-350]; [0377]-[0380]; [0402]-[0410]; [0417]; [0424]; [0426]; claim 25; and Figs. 1B, 8, 22, 32, 39B, 40B, 41;
- Maes at Abstract: 3:66-4:21; 4:62-5:19; 5:57-9:28; 10:8-29; 10:47-11:1; 11:8-13:15; 18:42-21:30; 21:43-22:67; 23:10-23; 23:44-25:3; 26:39-53; 28:11-35; 29:22-34:11; 34:34-58; 35:3-37:3; 37:17-38:37; 39:14-40:10; 41:35-43:2; 45:17-60; and Figs. 1-9;
- Lee-306 at Abstract; [0005]; [0009]; [0012]; [0014]-[0016]; [0020]-[0022]; and Fig. 1;
- Portman at [0011]; [0013]; [0019]; [0024]; [0026]-[0027]; [0029]; [0037]; [0046]-[0050]; [0054]; [0062]-[0066]; [0070]-[0072]; [0078]-[0082]; [0087]; [0093]; [0096]; and claim 35-38;
- Bangalore at Abstract; [0077]; [0081]-[0104]; [0108-113]; and Figs. 5-10;
- Farmaner at 2:55-3:21; 10:30-41; 15:10-16:50; 17:17-30; 19:1-58; 20:9-24; and Figs. 3-6;
- Kennewick at Abstract; [0010]; [0029]; [0032-33];[0036]; [0045]; [0080]; [0083]; [0085-86]; [0088]; [0108]; [0114]; [0145]; [0147]; [0149-155]; [0161-164]; [0166-171]; [0173]; [0185-187]; [0188]; and Figs. 1, 2, 3, 4B, 5, and 6;

- Lyudovyk at Abstract; [0002]-[0011]; [0015]-[0021]; [0022]-[0029]; [0034]-[0036]; [0041]; [0044]-[0049]; [0051-52]; [0066]; [0078]; [0085]; [0095]; and Figs. 1-2;
- Weissman at Abstract; Fig. 1; Fig. 2; Fig. 3; Fig 4; 2:55-3:7; 3:10-20; 3:21-34; 3:35-53; 6:31-46; 6:47-59; 7:9-13; 7:14-22; 7:24-35; 7:43-50; 7:51-65; 8:42-46; 8:55-65; 9:24-38; 9:51-55; 9:57-64; 10:28-40; 12:39-51;
- Dominach at Abstract; 2:53-67; 3:1-16; 3:37-47; 4:44-48;
- Ross at Abstract; 1:23-46; 2:49-50; 2:50-54; 2:58-61; 3:45-48; 3:50-52; 5:28-33; 5:34-43; 5:43-48; 5:65-6:3; 6:12-18; 6:40-53; 7:16-34; 7:46-54; 8:37-45; 9:7-9;
- Coffman at 4:6-26; 4:47-64; 5:8-30; 6:56-67; 8:33-63; 11:27-45; 12:13-43; 14:42-56; 15:50-16:17; 16:29-33; 20:22-26; 21:45-50; 22:5-46; 27:51-28:57; 29:1-13; 30:10-19; 30:36-50; 31:23-67; 32:3-47; 34:31-35:3; 35:44-53; 36:4-16; 37:52-38:7; 41:29-34; 42:1-39; 42:58-43:6; and Figs. 4 and 6;
- Lee-315 at Abstract; Claim 6; [0015-18]; [0020]; [0022]; [0024-27]; [0029-34]; and Fig. 1, 2 and 3; and
- Exemplary citations in Exhibits A-E to VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, and Telelogue System.

Persons having ordinary skill in the art were aware of various architectures for interactive speech systems, which could capture natural-language voice inputs, perform speech recognition on the captured natural-language voice inputs, and act on the recognized speech. *See, e.g.,*:

- Acero at Abstract; [0007]; [0015]; [0040]; [0044]-[0047]; [0050]-[0053]; [0055]; [0071]; [0074]; [0079]; [0082]-[0089]; [0095]-[0117]; [0124]-[0132]; [00137]; [0141]; [0143]; and Figs. 1-14;
- Bennett at Abstract; [0007]; [0030]; [0075-76]; [0081]; [0089]-[0092]; [0127]-[0133]; [0138]; [0149]; [0172]; [0176]; [0237]; [0239]; [0249]; [0258-259]; [0268]; [0270];

[0288]-[0289]; [0302]-[0305]; [0307]; [0311]; [0328]-[0332]; [0383]; and Figs. 1, 10, and 12;

- Wang-954 at Abstract; [0024]; [0027]; [0031]; [0042]; [0048]-[0063]; [0068]; [0071]-[0075]; [0082]; claims 10 and 24; and Figs. 2, 5, 8-10;
- Wang-499 at [0002]; [0012]-[0016]; [0026]-[0028]; [0037]; [0044]; [0156]-[0157]; [0163]; [0166]; [0219]; [0233]; [0257]-[0262]; [0332]; [0335]; [0342]; [0349-350]; [0377]-[0380]; [0402]-[0410]; [0417]; [0424]; [0426]; claim 25; and Figs. 1B, 8, 22, 32, 39B, 40B, 41;
- Maes at Abstract: 3:66-4:21; 4:62-5:19; 5:57-9:28; 10:8-29; 10:47-11:1; 11:8-13:15; 18:42-21:30; 21:43-22:67; 23:10-23; 23:44-25:3; 26:39-53; 28:11-35; 29:22-34:11; 34:34-58; 35:3-37:3; 37:17-38:37; 39:14-40:10; 41:35-43:2; 45:17-60; and Figs. 1-9;
- Lee-306 at Abstract; [0005]; [0009]; [0012]; [0014]-[0016]; [0020]-[0022]; and Fig. 1;
- Portman at [0011]; [0013]; [0019]; [0024]; [0026]-[0027]; [0029]; [0037]; [0046]-[0050]; [0054]; [0062]-[0066]; [0070]-[0072]; [0078]-[0082]; [0087]; [0093]; [0096]; and claim 35-38;
- Bangalore at Abstract; [0077]; [0081]-[0104]; [0108-113]; and Figs. 5-10;
- Farmaner at 2:55-3:21; 10:30-41; 15:10-16:50; 17:17-30; 19:1-58; 20:9-24; and Figs. 3-6;
- Kennewick at Abstract; [0010]; [0029]; [0032-33];[0036]; [0045]; [0080]; [0083]; [0085-86]; [0088]; [0108]; [0114]; [0145]; [0147]; [0149-155]; [0161-164]; [0166-171]; [0173]; [0185-187]; [0188]; and Figs. 1, 2, 3, 4B, 5, and 6;
- Lyudovyk at Abstract; [0002]-[0011]; [0015]-[0021]; [0022]-[0029]; [0034]-[0036]; [0041]; [0044]-[0049]; [0051-52]; [0066]; [0078]; [0085]; [0095]; and Figs. 1-2;
- Weissman at Abstract; Fig. 1; Fig. 2; Fig. 3; Fig 4; 2:55-3:7; 3:10-20; 3:21-34; 3:35-53; 6:31-46; 6:47-59; 7:9-13; 7:14-22; 7:24-35; 7:43-50; 7:51-65; 8:42-46; 8:55-65; 9:24-38; 9:51-55; 9:57-64; 10:28-40; 12:39-51;

- Dominach at Abstract; 2:53-67; 3:1-16; 3:37-47; 4:44-48;
- Ross at Abstract; 1:23-46; 2:49-50; 2:50-54; 2:58-61; 3:45-48; 3:50-52; 5:28-33; 5:34-43; 5:43-48; 5:65-6:3; 6:12-18; 6:40-53; 7:16-34; 7:46-54; 8:37-45; 9:7-9;
- Coffman at 4:6-26; 4:47-64; 5:8-30; 6:56-67; 8:33-63; 11:27-45; 12:13-43; 14:42-56; 15:50-16:17; 16:29-33; 20:22-26; 21:45-50; 22:5-46; 27:51-28:57; 29:1-13; 30:10-19; 30:36-50; 31:23-67; 32:3-47; 34:31-35:3; 35:44-53; 36:4-16; 37:52-38:7; 41:29-34; 42:1-39; 42:58-43:6; and Figs. 4 and 6;
- Lee-315 at Abstract; Claim 6; [0015-18]; [0020]; [0022]; [0024-27]; [0029-34]; and Fig. 1, 2 and 3; and
- Exemplary citations in Exhibits A-E to VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, and Telelogue System.

Accordingly, the Interactive Speech Architecture Prior Art was known work in the same field of computer technology. Design incentives or other market forces, such as incorporating speech interfaces into existing computer systems, would have motivated a POSITA to incorporate features taught by such prior art in predictable ways to mitigate problems or improve the functionality of interactive speech systems. Combinations with the Interactive Speech Architecture Prior Art would (1) involve the combination of known components for performing various functions (e.g., voice capture and processing, speech recognition, interpretation, and generating a response) to yield predictable results (e.g., a computer system that is accessible by interactive speech) and/or (2) involve a simple substitution of one known element (e.g., a monolithic client server system) for another (e.g., a distributed computer system) to obtain predictable results (e.g., the prior system function enhanced by a scalable architecture).

Agent Architecture Prior Art. The Asserted Claims are also invalid in view of any combination of references related to utilizing an agent architecture for natural language understanding, including, for example, Acero, Bennett, Wang-954, Wang-499, Maes, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, Lyudovyk, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, and Telelogue System (collectively, "Agent Architecture Prior Art").

The Agent Architecture Prior Art describe a number of benefits that were known to persons of skill in the art. It was well known in the prior art that the range of possible subject-matter areas for interpreting the meaning or context of an utterance could be organized into different agents for domains such as weather, movies, sports, traffic, music, television, and many others. It was also well-known that different software agents could be used to provide different possible interpretations of an utterance based on the different applicable domains. This use of agents and domains to interpret the most likely interpretation of a user's utterance increased the accuracy of identifying the most likely interpretation of a user's utterance. *See, e.g.*,:

- Acero at Abstract; [0007]; [0015]; [0040]; [0044]-[0047]; [0050]-[0053]; [0055]; [0071]; [0074]; [0079]; [0082]-[0089]; [0095]-[0117]; [0124]-[0132]; [00137]; [0141]; [0143]; and Figs. 1-14;
- Bennett at Abstract; [0007]; [0030]; [0075-76]; [0081]; [0089]-[0092]; [0127]-[0133]; [0138]; [0149]; [0172]; [0176]; [0237]; [0239]; [0249]; [0258-259]; [0268]; [0270]; [0288]-[0289]; [0302]-[0305]; [0307]; [0311]; [0328]-[0332]; [0383]; and Figs. 1, 10, and 12;
- Wang-954 at Abstract; [0024]; [0027]; [0031]; [0042]; [0048]-[0063]; [0068]; [0071]-[0075]; [0082]; claims 10 and 24; and Figs. 2, 5, 8-10;
- Wang-499 at [0002]; [0012]-[0016]; [0026]-[0028]; [0037]; [0044]; [0156]-[0157]; [0163]; [0166]; [0219]; [0233]; [0257]-[0262]; [0332]; [0335]; [0342]; [0349-350];

[0377]-[0380]; [0402]-[0410]; [0417]; [0424]; [0426]; claim 25; and Figs. 1B, 8, 22, 32, 39B, 40B, 41;

- Maes at Abstract: 3:66-4:21; 4:62-5:19; 5:57-9:28; 10:8-29; 10:47-11:1; 11:8-13:15; 18:42-21:30; 21:43-22:67; 23:10-23; 23:44-25:3; 26:39-53; 28:11-35; 29:22-34:11; 34:34-58; 35:3-37:3; 37:17-38:37; 39:14-40:10; 41:35-43:2; 45:17-60; and Figs. 1-9;
- Portman at [0011]; [0013]; [0019]; [0024]; [0026]-[0027]; [0029]; [0037]; [0046]-[0050]; [0054]; [0062]-[0066]; [0070]-[0072]; [0078]-[0082]; [0087]; [0093]; [0096]; and claim 35-38;
- Bangalore at Abstract; [0077]; [0081]-[0104]; [0108-113]; and Figs. 5-10;
- Farmaner at 2:55-3:21; 10:30-41; 15:10-16:50; 17:17-30; 19:1-58; 20:9-24; and Figs. 3-6;
- Kennewick at Abstract; [0010]; [0029]; [0032-33];[0036]; [0045]; [0080]; [0083]; [0085-86]; [0088]; [0108]; [0114]; [0145]; [0147]; [0149-155]; [0161-164]; [0166-171]; [0173]; [0185-187]; [0188]; and Figs. 1, 2, 3, 4B, 5, and 6;
- Lyudovyk at Abstract; [0002]-[0011]; [0015]-[0021]; [0022]-[0029]; [0034]-[0036]; [0041]; [0044]-[0049]; [0051-52]; [0066]; [0078]; [0085]; [0095]; and Figs. 1-2;
- Weissman at Abstract; Fig. 1; Fig. 2; Fig. 3; Fig 4; 2:55-3:7; 3:10-20; 3:21-34; 3:35-53; 6:31-46; 6:47-59; 7:9-13; 7:14-22; 7:24-35; 7:43-50; 7:51-65; 8:42-46; 8:55-65; 9:24-38; 9:51-55; 9:57-64; 10:28-40; 12:39-51;
- Dominach at Abstract; 2:53-67; 3:1-16; 3:37-47; 4:44-48;
- Ross at Abstract; 1:23-46; 2:49-50; 2:50-54; 2:58-61; 3:45-48; 3:50-52; 5:28-33; 5:34-43; 5:43-48; 5:65-6:3; 6:12-18; 6:40-53; 7:16-34; 7:46-54; 8:37-45; 9:7-9;
- Coffman at 4:6-26; 4:47-64; 5:8-30; 6:56-67; 8:33-63; 11:27-45; 12:13-43; 14:42-56; 15:50-16:17; 16:29-33; 20:22-26; 21:45-50; 22:5-46; 27:51-28:57; 29:1-13; 30:10-19; 30:36-50; 31:23-67; 32:3-47; 34:31-35:3; 35:44-53; 36:4-16; 37:52-38:7; 41:29-34; 42:1-39; 42:58-43:6; and Figs. 4 and 6;

- Lee-315 at Abstract; Claim 6; [0015-18]; [0020]; [0022]; [0024-27]; [0029-34]; and Fig. 1, 2 and 3; and
- Exemplary citations in Exhibits A-E to VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, and Telelogue System.

Persons having ordinary skill in the art were aware of using an agent architecture to understand or interpret natural language utterances. *See, e.g.*,:

- Acero at Abstract; [0007]; [0015]; [0040]; [0044]-[0047]; [0050]-[0053]; [0055]; [0071]; [0074]; [0079]; [0082]-[0089]; [0095]-[0117]; [0124]-[0132]; [00137]; [0141]; [0143]; and Figs. 1-14;
- Bennett at Abstract; [0007]; [0030]; [0075-76]; [0081]; [0089]-[0092]; [0127]-[0133]; [0138]; [0149]; [0172]; [0176]; [0237]; [0239]; [0249]; [0258-259]; [0268]; [0270]; [0288]-[0289]; [0302]-[0305]; [0307]; [0311]; [0328]-[0332]; [0383]; and Figs. 1, 10, and 12;
- Wang-954 at Abstract; [0024]; [0027]; [0031]; [0042]; [0048]-[0063]; [0068]; [0071]-[0075]; [0082]; claims 10 and 24; and Figs. 2, 5, 8-10;
- Wang-499 at [0002]; [0012]-[0016]; [0026]-[0028]; [0037]; [0044]; [0156]-[0157]; [0163]; [0166]; [0219]; [0233]; [0257]-[0262]; [0332]; [0335]; [0342]; [0349-350]; [0377]-[0380]; [0402]-[0410]; [0417]; [0424]; [0426]; claim 25; and Figs. 1B, 8, 22, 32, 39B, 40B, 41;
- Maes at Abstract: 3:66-4:21; 4:62-5:19; 5:57-9:28; 10:8-29; 10:47-11:1; 11:8-13:15; 18:42-21:30; 21:43-22:67; 23:10-23; 23:44-25:3; 26:39-53; 28:11-35; 29:22-34:11; 34:34-58; 35:3-37:3; 37:17-38:37; 39:14-40:10; 41:35-43:2; 45:17-60; and Figs. 1-9;

- Portman at [0011]; [0013]; [0019]; [0024]; [0026]-[0027]; [0029]; [0037]; [0046]-[0050]; [0054]; [0062]-[0066]; [0070]-[0072]; [0078]-[0082]; [0087]; [0093]; [0096]; and claim 35-38;
- Bangalore at Abstract; [0077]; [0081]-[0104]; [0108-113]; and Figs. 5-10;
- Farmaner at 2:55-3:21; 10:30-41; 15:10-16:50; 17:17-30; 19:1-58; 20:9-24; and Figs. 3-6;
- Kennewick at Abstract; [0010]; [0029]; [0032-33];[0036]; [0045]; [0080]; [0083]; [0085-86]; [0088]; [0108]; [0114]; [0145]; [0147]; [0149-155]; [0161-164]; [0166-171]; [0173]; [0185-187]; [0188]; and Figs. 1, 2, 3, 4B, 5, and 6;
- Lyudovyk at Abstract; [0002]-[0011]; [0015]-[0021]; [0022]-[0029]; [0034]-[0036]; [0041]; [0044]-[0049]; [0051-52]; [0066]; [0078]; [0085]; [0095]; and Figs. 1-2;
- Weissman at Abstract; Fig. 1; Fig. 2; Fig. 3; Fig 4; 2:55-3:7; 3:10-20; 3:21-34; 3:35-53; 6:31-46; 6:47-59; 7:9-13; 7:14-22; 7:24-35; 7:43-50; 7:51-65; 8:42-46; 8:55-65; 9:24-38; 9:51-55; 9:57-64; 10:28-40; 12:39-51;
- Dominach at Abstract; 2:53-67; 3:1-16; 3:37-47; 4:44-48;
- Ross at Abstract; 1:23-46; 2:49-50; 2:50-54; 2:58-61; 3:45-48; 3:50-52; 5:28-33; 5:34-43; 5:43-48; 5:65-6:3; 6:12-18; 6:40-53; 7:16-34; 7:46-54; 8:37-45; 9:7-9;
- Coffman at 4:6-26; 4:47-64; 5:8-30; 6:56-67; 8:33-63; 11:27-45; 12:13-43; 14:42-56; 15:50-16:17; 16:29-33; 20:22-26; 21:45-50; 22:5-46; 27:51-28:57; 29:1-13; 30:10-19; 30:36-50; 31:23-67; 32:3-47; 34:31-35:3; 35:44-53; 36:4-16; 37:52-38:7; 41:29-34; 42:1-39; 42:58-43:6; and Figs. 4 and 6;
- Lee-315 at Abstract; Claim 6; [0015-18]; [0020]; [0022]; [0024-27]; [0029-34]; and Fig. 1, 2 and 3; and
- Exemplary citations in Exhibits A-E to VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, and Telelogue System.

Accordingly, the Agent Architecture Prior Art was known work in the same field of computer technology. Design incentives, such as increasing the accuracy of speech recognition to recognize the words spoken by a user and determining the most likely interpretation of the user's natural language utterance, would have motivated a POSITA to incorporate features taught by such prior art in predictable ways. Incorporating agents and domains would, for example, mitigate problems associated with interactive speech systems misinterpreting a user utterance. Combinations with Agent Architecture Prior Art would (1) involve the combination of known methods (e.g., determining the applicable domain agents for interpreting an utterance) to yield predictable results (e.g., interpreting an utterance in a domain for a particular agent); and/or (2) involve the use of these known techniques (e.g., understanding a natural language utterance using domain information) to improve similar computer systems in the same way.

Multi-Modal Input Prior Art. The Asserted Claims are invalid in view of any combination of references related to multi-modal input (which may include speech communications and non-speech communications), including, for example, Acero, Wang-954, Maes, Portman, Bangalore, Kennewick, Dominach, Ross, Coffman, Lyudovyk, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, and Telelogue System (collectively, "Multi-Modal Input Prior Art"). A person having ordinary skill in the art would have been motivated to combine any of the Multi-Modal Input Prior Art.

The Multi-Modal Input Prior Art describe a number of benefits that were known to persons of skill in the art. For example, the Multi-Modal Input Prior Art disclose using both speech communications and non-speech communications for natural language understanding, and merging those multimodal inputs into a single transcription, which expands the number of ways that a user can interact with a speech system, including by combining or merging spoken and non-spoken inputs to allow a user to communicate a concept more efficiently. For example, a speech system can use non-speech inputs to improve the accuracy of natural language understanding of spoken inputs. *See, e.g.*,:

- Acero at Abstract; [0007]; [0015]; [0040]; [0044]-[0047]; [0050]-[0053]; [0055]; [0071]; [0074]; [0079]; [0082]-[0089]; [0095]-[0117]; [0124]-[0132]; [00137]; [0141]; [0143]; and Figs. 1-14;
- Wang-954 at Abstract; [0024]; [0027]; [0031]; [0042]; [0048]-[0063]; [0068]; [0071]-[0075]; [0082]; claims 10 and 24; and Figs. 2, 5, 8-10;
- Maes at Abstract: 3:66-4:21; 4:62-5:19; 5:57-9:28; 10:8-29; 10:47-11:1; 11:8-13:15; 18:42-21:30; 21:43-22:67; 23:10-23; 23:44-25:3; 26:39-53; 28:11-35; 29:22-34:11; 34:34-58; 35:3-37:3; 37:17-38:37; 39:14-40:10; 41:35-43:2; 45:17-60; and Figs. 1-9;
- Portman at [0011]; [0013]; [0019]; [0024]; [0026]-[0027]; [0029]; [0037]; [0046]-[0050]; [0054]; [0062]-[0066]; [0070]-[0072]; [0078]-[0082]; [0087]; [0093]; [0096]; and claim 35-38;
- Bangalore at Abstract; [0077]; [0081]-[0104]; [0108-113]; and Figs. 5-10;
- Kennewick at Abstract; [0010]; [0029]; [0032-33];[0036]; [0045]; [0080]; [0083]; [0085-86]; [0088]; [0108]; [0114]; [0145]; [0147]; [0149-155]; [0161-164]; [0166-171]; [0173]; [0185-187]; [0188]; and Figs. 1, 2, 3, 4B, 5, and 6;
- Lyudovyk at Abstract; [0002]-[0011]; [0015]-[0021]; [0022]-[0029]; [0034]-[0036]; [0041]; [0044]-[0049]; [0051-52]; [0066]; [0078]; [0085]; [0095]; and Figs. 1-2;
- Dominach at Abstract; 2:53-67; 3:1-16; 3:37-47; 4:44-48;
- Ross at Abstract; 1:23-46; 2:49-50; 2:50-54; 2:58-61; 3:45-48; 3:50-52; 5:28-33; 5:34-43; 5:43-48; 5:65-6:3; 6:12-18; 6:40-53; 7:16-34; 7:46-54; 8:37-45; 9:7-9;
- Coffman at 4:6-26; 4:47-64; 5:8-30; 6:56-67; 8:33-63; 11:27-45; 12:13-43; 14:42-56; 15:50-16:17; 16:29-33; 20:22-26; 21:45-50; 22:5-46; 27:51-28:57; 29:1-13; 30:10-19;

30:36-50; 31:23-67; 32:3-47; 34:31-35:3; 35:44-53; 36:4-16; 37:52-38:7; 41:29-34; 42:1-39; 42:58-43:6; and Figs. 4 and 6; and

- Exemplary citations in Exhibits A-E to VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, and Telelogue System.

Persons having ordinary skill in the art were aware of using multi-modal inputs to understand or interpret natural language utterances. *See, e.g.*,:

- Acero at Abstract; [0007]; [0015]; [0040]; [0044]-[0047]; [0050]-[0053]; [0055]; [0071]; [0074]; [0079]; [0082]-[0089]; [0095]-[0117]; [0124]-[0132]; [00137]; [0141]; [0143]; and Figs. 1-14;
- Wang-954 at Abstract; [0024]; [0027]; [0031]; [0042]; [0048]-[0063]; [0068]; [0071]-[0075]; [0082]; claims 10 and 24; and Figs. 2, 5, 8-10;
- Maes at Abstract: 3:66-4:21; 4:62-5:19; 5:57-9:28; 10:8-29; 10:47-11:1; 11:8-13:15; 18:42-21:30; 21:43-22:67; 23:10-23; 23:44-25:3; 26:39-53; 28:11-35; 29:22-34:11; 34:34-58; 35:3-37:3; 37:17-38:37; 39:14-40:10; 41:35-43:2; 45:17-60; and Figs. 1-9;
- Portman at [0011]; [0013]; [0019]; [0024]; [0026]-[0027]; [0029]; [0037]; [0046]-[0050]; [0054]; [0062]-[0066]; [0070]-[0072]; [0078]-[0082]; [0087]; [0093]; [0096]; and claim 35-38;
- Bangalore at Abstract; [0077]; [0081]-[0104]; [0108-113]; and Figs. 5-10;
- Kennewick at Abstract; [0010]; [0029]; [0032-33];[0036]; [0045]; [0080]; [0083]; [0085-86]; [0088]; [0108]; [0114]; [0145]; [0147]; [0149-155]; [0161-164]; [0166-171]; [0173]; [0185-187]; [0188]; and Figs. 1, 2, 3, 4B, 5, and 6;
- Lyudovyk at Abstract; [0002]-[0011]; [0015]-[0021]; [0022]-[0029]; [0034]-[0036]; [0041]; [0044]-[0049]; [0051-52]; [0066]; [0078]; [0085]; [0095]; and Figs. 1-2;
- Dominach at Abstract; 2:53-67; 3:1-16; 3:37-47; 4:44-48;

- Ross at Abstract; 1:23-46; 2:49-50; 2:50-54; 2:58-61; 3:45-48; 3:50-52; 5:28-33; 5:34-43; 5:43-48; 5:65-6:3; 6:12-18; 6:40-53; 7:16-34; 7:46-54; 8:37-45; 9:7-9;
- Coffman at 4:6-26; 4:47-64; 5:8-30; 6:56-67; 8:33-63; 11:27-45; 12:13-43; 14:42-56; 15:50-16:17; 16:29-33; 20:22-26; 21:45-50; 22:5-46; 27:51-28:57; 29:1-13; 30:10-19; 30:36-50; 31:23-67; 32:3-47; 34:31-35:3; 35:44-53; 36:4-16; 37:52-38:7; 41:29-34; 42:1-39; 42:58-43:6; and Figs. 4 and 6; and
- Exemplary citations in Exhibits A-E to VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, and Telelogue System.

Accordingly, the Multi-Modal Input Prior Art was known work in the field of computer technology. Design incentives or other market forces, such as improving the ability of speech systems to understand context and expand options for different modalities of user interactions, would have motivated a POSITA to incorporate features taught by such prior art in predictable ways to solve problems with improving human interaction with spoken language understanding systems. Combinations with the Multi-Modal Input Prior Art would (1) involve the combination of known methods (e.g., speech recognition, interpretation, and generating a response) to yield predictable results (e.g., a computer system that is accessible by interactive speech) and/or (2) involve the use of these known techniques (e.g., improving interactive speech through recognition of context) to improve similar computer systems in the same way.

Persons of ordinary skill would have been motivated to combine the Interactive Speech Prior Art with the Interactive Speech Architecture Prior Art to allow the users to direct or control interactive speech systems in natural ways that are consistent with how people already interact with other humans. The Interactive Speech Prior Art could be improved by implementing the specific improvements to the speech recognition and natural language understanding components disclosed by the Interactive Speech Architecture Prior Art. Persons of ordinary skill would have also been motivated to use the architectures of the Interactive Speech Architecture Prior Art because such persons would have found it efficient to use existing architectures that had been developed for interactive speech direction and control. Leveraging existing speech system architectures would have resulted in faster and more cost-effective development compared to designing and building new architectures for the same purposes.

Persons of ordinary skill would have been motivated to combine Agent Architecture Prior Art with the Interactive Speech Prior Art and Interactive Speech Architecture Prior Art because such persons were aware that organizing information into subject matter areas or domains corresponding to different agents would improve the accuracy of natural language understanding based on the context of an utterance. Additionally, POSITAs were aware that agent architectures allowed different agents to seamlessly communicate with one another using an agent language to take advantage of the services offered by different agents available in the system to obtain missing information, asking questions, receiving answers, querying information sources, and generating responses to a user. Such persons would recognize that these agent architectures could be incorporated with any Interactive Speech Prior Art and Interactive Speech Architecture Prior Art because the entire purpose of agent architectures was to create an agent language that could be used as a wrapper around existing software components to allow those software components to seamlessly integrate with the agent architecture. Such persons would have known that incorporating an agent architecture with Interactive Speech Prior Art and/or Interactive Speech Architecture Prior Art would expand the capabilities of the system by allowing the incorporation of more domains, information sources, agents that can help resolve ambiguities, agents that can help generate responses, and improve the overall accuracy of speech recognition and natural language understanding. POSITAs would have also understood that improving the interpretation of speech recognition and natural language utterances increases user engagement with interactive voice systems by allowing for more efficient and seamless interactions and reducing the likelihood that users will become frustrated or annoyed by inaccurate spoken language understanding. Persons having ordinary skill in the art would have also been motivated to combine the Agent Architecture Prior Art with the Multi-Modal Input Prior Art because different agents can handle multiple types of user input including both speech and non-speech communications.

Persons of ordinary skill would have been motivated to combine the Multi-Modal Input Prior Art with the Interactive Speech Prior Art and Interactive Speech Architecture Prior Art because such persons were aware that receiving and processing multi-modal inputs such as both speech and non-speech communications would expand the range of possible user inputs to a spoken language understanding system and increase the efficiency of communicating a user's intent (e.g., by allowing a user to ask for restaurant's here, while pointing to the location they are referring to on a map, or allowing a user to provide correction for a misrecognition by speaking and simultaneously handwriting, among other possibilities). Such persons would also have known that using non-speech inputs can provide additional context to improve the accuracy of natural language understanding component of Interactive Speech Prior Art and Interactive Speech Architecture Prior Art.

Moreover, a multitude of companies sold products that utilized techniques for responding to natural language speech utterances and supporting natural language human-machine interactions, as described by the Asserted Patents. For example, even before August 5, 2005, a number of companies had already developed and/or utilized systems that included interactive speech technology, architectures for implementing interactive speech systems, agent architectures for natural language understanding, and multi-modal inputs, such as VoiceBox, IBM, Microsoft, Dragon Systems, Intervoice, Nuance, Genesys, Telelogue, SpeechWorks, and other companies implementing the W3C standards. Thus, the combination of known interactive speech technology, known architectures for implementing interactive speech systems, known agent architectures for natural language understanding, and known usage of multi-modal inputs, as disclosed in publications and/or systems associated with those companies, would have been obvious, would have entailed a simple substitution, addition, or combination of known elements that yielded predictable results, and/or would have consisted of the usage of a known technique to improve similar systems in the same way. At the very least, it would have been obvious to a POSITA to combine different features of the contemporaneously available similar/related systems of those companies and a POSITA would have a reasonable expectation of success at such combinations.

2. ’160 Patent

Consistent with the obviousness rationales for combining each of the references and systems discussed above, the below table provides a summary of the combinations of references rendering obvious to a POSITA, with or without a POSITA’s knowledge (including the AAPA and general state of the art), skill and/or creativity, the Asserted Claims of the ’160 Patent.

Reference	Reference Alone or in Combination With One or More of the Following
Acero	Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Bennett	Acero, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Wang-954	Acero, Bennett, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Wang-499	Acero, Bennett, Wang-954, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Maes	Acero, Bennett, Wang-954, Wang-499, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315,

Reference	Reference Alone or in Combination With One or More of the Following
	VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Lee-306	Acero, Bennett, Wang-954, Wang-499, Maes, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Portman	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Bangalore	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Farmaner	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Kennewick	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Weissman	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Dominach	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Ross	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System,

Reference	Reference Alone or in Combination With One or More of the Following
	Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Coffman	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Lee-315	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
VoiceBox System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
IBM ViaVoice and WebSphere System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Microsoft MiPad System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Dragon NaturallySpeaking System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
W3C Standards	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Nuance Speech Recognition Systems	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad

Reference	Reference Alone or in Combination With One or More of the Following
	System, Dragon NaturallySpeaking System, W3C Standards, Telelogue System, Lyudovyk
Telelogue System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Lyudovyk
Lyudovyk	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System

Additionally, Defendant incorporates by reference each of the obviousness combinations and obviousness rationales presented in at least the following IPR and/or reexamination proceedings pending before the United States Patent and Trademark Office and any additional proceedings before the United States Patent and Trademark Office that may be filed challenging the patentability of the ’160 Patent:

- IPR2024-00753 against the ’160 Patent.

3. ’468 Patent

Consistent with the obviousness rationales for combining each of the references and systems discussed above, the below table provides a summary of the combinations of references rendering obvious to a POSITA, with or without a POSITA’s knowledge (including the AAPA and general state of the art), skill and/or creativity, the Asserted Claims of the ’468 Patent.

Reference	Reference Alone or in Combination With One or More of the Following
Acero	Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Bennett	Acero, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315,

Reference	Reference Alone or in Combination With One or More of the Following
	VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Wang-954	Acero, Bennett, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Wang-499	Acero, Bennett, Wang-954, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Maes	Acero, Bennett, Wang-954, Wang-499, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Lee-306	Acero, Bennett, Wang-954, Wang-499, Maes, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Portman	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Bangalore	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Farmaner	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Kennewick	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System,

Reference	Reference Alone or in Combination With One or More of the Following
	Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Weissman	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Dominach	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Ross	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Coffman	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Lee-315	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
VoiceBox System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
IBM ViaVoice and WebSphere System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Microsoft MiPad System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Dragon

Reference	Reference Alone or in Combination With One or More of the Following
	NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Dragon NaturallySpeaking System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
W3C Standards	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Nuance Speech Recognition Systems	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Telelogue System, Lyudovyk
Telelogue System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Lyudovyk
Lyudovyk	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System

Additionally, Defendant incorporates by reference each of the obviousness combinations and obviousness rationales presented in any additional proceedings before the United States Patent and Trademark Office that may be filed challenging the patentability of the ’468 Patent.

4. ’607 Patent

Consistent with the obviousness rationales for combining each of the references and systems discussed above, the below table provides a summary of the combinations of references rendering obvious to a POSITA, with or without a POSITA's knowledge (including the AAPA and general state of the art), skill and/or creativity, the Asserted Claims of the '607 Patent.

Reference	Reference Alone or in Combination With One or More of the Following
Acero	Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Bennett	Acero, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Wang-954	Acero, Bennett, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Wang-499	Acero, Bennett, Wang-954, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Maes	Acero, Bennett, Wang-954, Wang-499, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Lee-306	Acero, Bennett, Wang-954, Wang-499, Maes, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Portman	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Bangalore	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox

Reference	Reference Alone or in Combination With One or More of the Following
	System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Farmaner	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Kennewick	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Weissman	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Dominach	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Ross	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Coffman	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Lee-315	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
VoiceBox System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon

Reference	Reference Alone or in Combination With One or More of the Following
	NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
IBM ViaVoice and WebSphere System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Microsoft MiPad System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Dragon NaturallySpeaking System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
W3C Standards	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Nuance Speech Recognition Systems	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Telelogue System, Lyudovyk
Telelogue System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Lyudovyk
Lyudovyk	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System

Additionally, Defendant incorporates by reference each of the obviousness combinations and obviousness rationales presented in at least the following IPR and/or reexamination proceedings pending before the United States Patent and Trademark Office and any additional proceedings before the United States Patent and Trademark Office that may be filed challenging the patentability of the ’607 Patent:

- IPR2024-00751 against the ’607 Patent.

5. ’039 Patent

Consistent with the obviousness rationales for combining each of the references and systems discussed above, the below table provides a summary of the combinations of references rendering obvious to a POSITA, with or without a POSITA’s knowledge (including the AAPA and general state of the art), skill and/or creativity, the Asserted Claims of the ’039 Patent.

Reference	Reference Alone or in Combination With One or More of the Following
Acero	Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Bennett	Acero, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Wang-954	Acero, Bennett, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Wang-499	Acero, Bennett, Wang-954, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Maes	Acero, Bennett, Wang-954, Wang-499, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315,

Reference	Reference Alone or in Combination With One or More of the Following
	VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Lee-306	Acero, Bennett, Wang-954, Wang-499, Maes, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Portman	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Bangalore	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Farmaner	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Kennewick	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Weissman	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Dominach	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Ross	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System,

Reference	Reference Alone or in Combination With One or More of the Following
	Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Coffman	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Lee-315	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
VoiceBox System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
IBM ViaVoice and WebSphere System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Microsoft MiPad System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Dragon NaturallySpeaking System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
W3C Standards	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Nuance Speech Recognition Systems	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad

Reference	Reference Alone or in Combination With One or More of the Following
	System, Dragon NaturallySpeaking System, W3C Standards, Telelogue System, Lyudovyk
Telelogue System	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Lyudovyk
Lyudovyk	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System

Additionally, Defendant incorporates by reference each of the obviousness combinations and obviousness rationales presented in any additional proceedings before the United States Patent and Trademark Office that may be filed challenging the patentability of the ’039 Patent.

6. ’957 Patent

Consistent with the obviousness rationales for combining each of the references and systems discussed above, the below table provides a summary of the combinations of references rendering obvious to a POSITA, with or without a POSITA’s knowledge (including the AAPA and general state of the art), skill and/or creativity, the Asserted Claims of the ’957 Patent.

Reference	Reference Alone or in Combination With One or More of the Following
Acero	Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
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Wang-954	Acero, Bennett, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox

Reference	Reference Alone or in Combination With One or More of the Following
	System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Wang-499	Acero, Bennett, Wang-954, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Maes	Acero, Bennett, Wang-954, Wang-499, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Lee-306	Acero, Bennett, Wang-954, Wang-499, Maes, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
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Reference	Reference Alone or in Combination With One or More of the Following
	Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Dominach	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Ross	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
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Reference	Reference Alone or in Combination With One or More of the Following
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W3C Standards	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, Nuance Speech Recognition Systems, Telelogue System, Lyudovyk
Nuance Speech Recognition Systems	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Telelogue System, Lyudovyk
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Lyudovyk	Acero, Bennett, Wang-954, Wang-499, Maes, Lee-306, Portman, Bangalore, Farmaner, Kennewick, Weissman, Dominach, Ross, Coffman, Lee-315, VoiceBox System, IBM ViaVoice and WebSphere System, Microsoft MiPad System, Dragon NaturallySpeaking System, W3C Standards, Nuance Speech Recognition Systems, Telelogue System

Additionally, Defendant incorporates by reference each of the obviousness combinations and obviousness rationales presented in at least the following IPR and/or reexamination proceedings pending before the United States Patent and Trademark Office and any additional proceedings before the United States Patent and Trademark Office that may be filed challenging the patentability of the ’957 Patent:

- Reexamination Control No. 90/015,303 against the ’957 Patent.

V. <u>PATENT L.R. 3-3(C)</u>

Defendant provides herewith, as Exhibits A-E, claim charts identifying where and how specifically in each prior art reference each element of each asserted claim is found, including for each element that Defendant contends is governed by 35 U.S.C. § 112(6), the identity of the structure(s), act(s), or material(s) in each item of prior art that performs the claimed function. Where Defendant cites to a particular figure in a prior art reference, the citation should be understood to encompass, in addition to the figure itself, the caption and description of the figure as well as any text relating to the figure. Conversely, where a cited portion of text refers to a figure, the citation should be understood to include the figure as well.

Defendant has endeavored to identify portions of the charted prior art that disclose each element of the Asserted Claims of the Patents-in-Suit as required by Patent L.R. 3-3(C). However, the prior art may contain additional disclosure for a particular claim element. To avoid excessive, cumulative citations, Defendant identifies portions of prior art references sufficient to show how the reference discloses the claimed feature. However, Defendant may point to additional evidence from the reference to support its contention that the cited passage discloses the claimed limitation. Persons of ordinary skill in the art of the Patents-in-Suit would determine what is described, disclosed, suggested, and taught by these items of prior art based on the prior art reference as a whole and in the context of relevant publications and literature in the art. Moreover, to understand and interpret any specific description, disclosure, or teaching of an item of prior art, such persons would rely on other information within the prior art item along with other prior art publications and their general scientific or engineering knowledge.

VI. PATENT L.R. 3-3(D)

A. Grounds of Invalidity Under 35 U.S.C. § 112

Defendant lists below the grounds upon which Defendant contends the Asserted Claims of the Patents-in-Suit are invalid for failure to meet one or more of the requirements of 35 U.S.C. § 112. Defendant has not yet taken any depositions related to these issues. Defendant specifically reserves the right to amend and/or supplement these Invalidity Contentions based on subsequently discovered information, and to rely on expert testimony in support of their defenses. Defendant's contentions related to 35 U.S.C. § 112 are informed by and premised on their understanding of

Plaintiff's current infringement contentions and theories and apparent constructions taken by Plaintiff therein.

Patent laws reward innovation with a temporary monopoly. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.,* 535 U.S. 722, 730 (2002). "The monopoly is a property right; and like any property right, its boundaries should be clear. This clarity is essential to promote progress, because it enables efficient investment in innovation." *Festo*, 535 U.S. at 731–32. As such, the "patent laws require inventors to describe their work in 'full, clear, concise, and exact terms.'" *Id*. at 731. All claim limitations must appear in the specification. *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997). Among other things, 35 U.S.C. § 112 defines these boundaries by setting forth separate requirements for the patent's written description, the patent's enablement, and the definiteness of the claims.

"The 'written description' requirement [of 35 U.S.C. § 112, ¶ 1] implements the principle that a patent must describe the technology that is sought to be patented; the requirement serves both to satisfy the inventor's obligation to disclose the technologic knowledge upon which the patent is based, and to demonstrate that the patentee was in possession of the invention that is claimed." *Capon v. Eshhar*, 418 F.3d 1349, 1357 (Fed. Cir. 2005). It is for this reason that "[t]he written description doctrine prohibits new matter from entering into claim amendments, particularly during the continuation process." *Agilent Techs., Inc. v. Affymetrix, Inc.*, 567 F.3d 1366, 1379 (Fed. Cir. 2009). In other words, the written description serves "to prevent an applicant from later asserting that he invented that which he did not." *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1330 (Fed. Cir. 2003).

"The written description requirement is satisfied if the inventor conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and demonstrates that by disclosure in the specification of the patent." *Quake*, 928 F.3d at 1373. "The invention is, for purposes of the 'written description' inquiry, *whatever is now* *claimed*." *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991). That test "requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art." *Ariad Pharms., Inc. v. Eli Lilly & Co.,* 598 F.3d 1336, 1351 (Fed. Cir. 2010). Furthermore, to satisfy the written description requirement, the applicant need not exactly describe the subject matter claimed or use the same terms as used in the claims, but "the specification must contain an equivalent description of the claimed subject matter." *Lockwood*, 107 F.3d at 1572; *see also Vas-Cath*, 935 F.2d at 1563. "A description that merely renders the claimed invention obvious [to a POSITA] does not satisfy the [written description] requirement." *Ariad*, 598 F.3d at 1352 *citing Lockwood*, 107 F.3d at 1571-1572. Accordingly, it is not sufficient that the original disclosure, when combined with the knowledge of a POSITA, would lead a POSITA to speculate as to the modifications that the inventor might have envisioned, but failed to disclose. *D Three Enters., LLC v. SunModo Corp.*, 890 F.3d 1042, 1050-1052 (Fed. Cir. 2018). While the written description requirement does not require that the specification disclose the claimed invention in any particular way, pointing to an "amalgam of disclosures" from which a POSITA could have created the claimed invention does not satisfy this requirement. *Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1349 (Fed. Cir. 2013); *accord Ariad*, 598 F.3d at 1352. Instead, the specification must present each claim as an "integrated whole." *Novozymes*, 723 F.3d at 1349. Further, the patent's written description must "sufficiently demonstrate[] that the inventors possessed the full scope of the claimed invention." *Juno Therapeutics, Inc. v. Kite Pharma, Inc.*, 10 F.4d 1330, 1336 (Fed. Cir. 2021).

Defendant contends that Plaintiff's apparent claim constructions, to the extent understandable from its infringement contentions, render many terms and phrases of the Asserted Claims well beyond the scope of the purported inventions described in the Patents-in-Suit. Plaintiff's infringement contentions, to the extent understandable, attempt to construe the terms and phrases of the Patents-in-Suit in a manner that is inconsistent with the written specifications and prosecution histories of the Patents-in-Suit as well as with the understanding of one of ordinary skill in the art at the time the applications that issued as the Patents-in-Suit were filed, as discussed specifically below. These constructions taken in the infringement contentions are inconsistent with the plain language of the claims, the supporting description, and the prosecution history. As set forth in more detail below, to the extent any of the Asserted Claims are found to cover one or more of the accused products identified in Plaintiff's infringement contentions, such Asserted Claims are also invalid under 35 U.S.C. § 112, ¶ 1.

The enablement requirement refers to the requirement of 35 U.S.C. § 112, ¶ 1 that the specification describe how to make and how to use the invention. The invention that one skilled in the art must be enabled to make and use is that defined by the claim(s) of the particular patent. The purpose of the enablement requirement is to ensure that the invention is communicated to the interested public in a meaningful way. The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Minerals Separation Ltd. v. Hyde,* 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. *In re Wands,* 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). Accordingly, even though the statute does not use the term "undue experimentation," it has been interpreted to require that the claimed invention be enabled so that any person skilled in the art can make and use the invention without undue experimentation. *In re Wands,* 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988); *see also United States v. Telectronics, Inc.,* 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988). To satisfy the enablement requirement, a patent specification need not teach what is well known in the art. *In re Buchner,* 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.,* 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986), *cert. denied,* 480 U.S. 947 (1987); and *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.,* 730 F.2d 1452, 1463, 221 USPQ 481, 489 (Fed. Cir. 1984). There are several factors to be considered when determining whether there is sufficient evidence to support a determination that a patent disclosure does or does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to: (a) The breadth of the claims; (b) The nature of the invention; (c) The state of the prior art; (d) The level of one of ordinary skill; (e) The level of predictability in the art; (f) The amount of direction provided by the inventor; (g) The existence of working examples; and (h) The quantity of experimentation needed to make or use the invention based on the content of the disclosure. *Wands*, 858 F.2d at 737.

Written description and enablement are separate requirements for patentability under 35 U.S.C. § 112, ¶ 1. *Ariad*, 598 F.3d at 1351. Written description is about whether a POSITA can recognize that what is claimed corresponds to what is described; it is ***not*** about whether the patentee has proven to a POSITA that the invention works, or how to make it work, which is an enablement question. *CenTrak, Inc. v. Sonitor Techs., Inc.*, 915 F.3d 1360, 1366 (Fed. Cir. 2019); *see also Alcon Research Ltd. v. Barr Labs., Inc.*, 745 F.3d 1180, 1191 (Fed. Cir. 2014).

The intent of 35 U.S.C. § 112, ¶ 2, and the "definiteness" requirement, is to preserve and protect the public notice function served by claims. In the seminal *Nautilus* decision, the Supreme Court set forth the relationship between the public notice function and the "definiteness" requirement:

> [A] patent must be precise enough to afford clear notice of what is claimed, thereby "appris[ing] the public of what is still open to them." … Otherwise there would be "[a] zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims." … And absent a meaningful definiteness check, we are told, patent applicants face powerful incentives to inject ambiguity into their claims … Eliminating that temptation is in order, and "the patent drafter is in the best position to resolve the ambiguity in … patent claims." … Cognizant of the competing concerns, we read §112, ¶ 2 to require that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty … It cannot be sufficient that a court can ascribe *some* meaning to a patent's claims; the definiteness inquiry trains on the understanding of a skilled artisan at the time of the patent application, not that of a court viewing matters *post hoc*. To tolerate imprecision just short of that rendering a claim "insolubly ambiguous" would diminish the definiteness

> requirement's public-notice function and foster the innovation-discouraging "zone of uncertainty," … .

Nautilus, Inc. v. Biosig Instruments, Inc., 572 U.S. 898, 909-911 (2014) (emphasis in original) (internal citations omitted) (the Supreme Court also expressly overruling the Federal Circuit's prior "insolubly ambiguous" standard and expressly abrogating several district court decisions wrongly decided under this prior standard). A decision on whether a claim is indefinite under 35 U.S.C. 112(b) or pre-AIA 35 U.S.C. 112, second paragraph requires a determination of whether those skilled in the art would understand what is claimed when the claim is read in light of the specification. *Power-One, Inc. v. Artesyn Techs., Inc.,* 599 F.3d 1343, 1350, 94 USPQ2d 1241, 1245 (Fed. Cir. 2010).

As further described below, certain Asserted Claims are invalid because the specifications of the Patents-in-Suit do not include sufficient written description of the purported inventions allegedly claimed in the Patents-in-Suit, and the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use any of the allegedly claimed inventions, 35 U.S.C. § 112, ¶ 1. Moreover, the patent applications that issued as the Patents-in-Suit did not contain a written description of the purported invention sufficiently clear and complete to enable one of ordinary skill in the art to which the purported invention pertains to make and use the invention as claimed without undue experimentation. *Id.*; *see also, e.g.*, *Telectronics, Inc.*, 857 F.2d at 785. Certain Asserted Claims are also invalid under 35 U.S.C. § 112, ¶ 1 because their full scope is not enabled by the specifications of the relevant Patents-in-Suit. *Id*. Certain Asserted Claims are also invalid under 35 U.S.C. § 112, ¶ 1 because there is insufficient written description of the invention to demonstrate that purported inventor(s) of the Asserted Claims possessed the inventions set forth in the Asserted Claims. 35 U.S.C. § 112, ¶ 1; *see also, e.g.*, *Moba, B.V. v. Diamond Automation, Inc.,* 325 F.3d 1306, 1319, 66 USPQ2d 1429, 1438 (Fed. Cir. 2003). To the extent the below-listed limitations are definite (under 35 U.S.C. § 112, ¶ 2), the applications that became the Asserted Patents fail to sufficiently describe or enable them as required by 35 U.S.C. § 112, ¶ 1:[16]

Certain Asserted Claims are also invalid because, under the apparent constructions and infringement theories set forth by Plaintiff, the claims do not particularly point out and distinctly claim the subject matter which the applicant(s) regards as the invention as required by 35 U.S.C. § 112, ¶ 2. *See, e.g.*, *Power-One*, 599 F.3d at 1350; *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1344, 1348-49 (Fed. Cir. 2002); S*ynchronoss Techs., Inc. v. Dropbox, Inc.*, 987 F.3d 1358, 1366 (Fed. Cir. 2021).

In the below tables, terms identified as lacking written description/enablement pursuant to pre-AIA § 112 (para. 1) are invalid because the specification lacks sufficient disclosures to enable a person of ordinary skill in the art to practice the full scope of this claim element without undue experimentation and/or because the specification does not describe either the claim element individually or the claim as a whole in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the full scope of the claimed invention. Similarly, terms identified as being indefinite pursuant to pre-AIA § 112 (para. 2) are invalid because, at least under Plaintiff's interpretation of the term, as evidenced from its Infringement Contentions, a person of ordinary skill in the art would not be able to ascertain the scope and meaning of this term with reasonable certainty.

1. '160 Patent

Term	§ 112 Grounds	Relevant Claim(s)
"knowledge-enhanced speech recognition engine"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 12

[16] Listed claims also include all Asserted Claims dependent thereon, even if those claims are not individually listed.

	Indefinite for failure to disclose structure that performs the recited function of a means plus function claim term pursuant to pre-AIA § 112, para. 6.	
"contexts"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"expected contexts"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"context stack"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2	All Asserted Claims
"the grammar expression entries in the context description grammar"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"domain agent"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	All Asserted Claims
"the request formulated using at least one grammar expression entry in the context description grammar"	Indefinite for failure to disclose structure that performs the recited function of a means plus function claim term pursuant to pre-AIA § 112, para. 6. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"multi-pass speech recognition module"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2. Indefinite for failure to disclose structure that performs the recited function of a	Claim 13

	means plus function claim term pursuant to pre-AIA § 112, para. 6.	

2. ’468 Patent

Term	§ 112 Grounds	Relevant Claim(s)
“a conversational voice user interface”	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
“receiving a multi-modal natural language input . . . including a natural language utterance a non-speech input provided by a user, wherein a transcription module . . . transcribes the non-speech input to create a non-speech based transcription”	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
“transcription module . . . transcribes the non-speech input to create a non-speech based transcription”	Indefinite for failure to disclose structure that performs the recited function of a means plus function claim term pursuant to pre-AIA § 112, para. 6.	All Asserted Claims
“identifying the user that provided the multi-modal input”	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	All Asserted Claims
“creating a speech-based transcription of the natural language utterance using a speech recognition engine and a semantic knowledge-based module, wherein the semantic knowledge-based model includes a personalized cognitive model derived from one or more prior interactions between the identified user and the conversational voice user interface, a general cognitive model derived from one or more prior interactions between a plurality of users and the conversational voice user interface, and an environmental model derived from an environment of the	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2. Indefinite for failure to disclose structure that performs the recited function of a means plus function claim term pursuant to pre-AIA § 112, para. 6.	All Asserted Claims

identified user and the conversational voice user interface."		
"merging the speech-based transcription and the nonspeech-based transcription to create a merged transcription"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	All Asserted Claims
"identifying one or more entries in a context stack matching information contained in the merged transcription"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"determining a most likely context for the multi-modal input based on the identified entries"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"identifying a domain agent associated with the most likely context for the multi-modal input"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"generating a response to the user from content provided by the identified domain agent as a result of processing the request"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	All Asserted Claims
"wherein the knowledge-enhanced speech recognition engine determines a most likely context for the follow-up multi-modal input using the updated context stack"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	Claim 28
"the knowledge-enhanced speech recognition engine"	Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 28
"the speech recognition engine creates aspeech-based transcription of the follow-up natural language utterance using the updated semantic knowledge-based model"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	Claim 29

3. ’607 Patent

Term	§ 112 Grounds	Relevant Claim(s)

"natural language"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 12
"cognitive model"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"receiving, by one or more processors, a multi-modal natural language input from a user, the multi-modal natural language input including a natural language utterance and a non-speech input"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 12
"generating, by the one or more processors, a non-speech transcription from the non-speech input;"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	Claim 12
"identifying, by the one or more processors, the user who provided the multi-modal natural language input"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 12
"generating, by the one or more processors, a speech-based transcription based on a cognitive model associated with the user, wherein the cognitive model includes information on one or more prior interactions between the user and the device"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 12
"generating, by the one or more processors, a merged transcription from the speech-based transcription and the non-speech transcription"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	Claim 12
"context"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 12
"context stack"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	Claim 12

	Indefinite pursuant to pre-AIA § 112, para. 2.	
"identifying, by the one or more processors, an entry in a context stack, from among a plurality of entries that are in the context stack and that are each indicative of context, wherein the identified entry matches information in the merged transcription"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 12
"domain agent"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 12
"identifying, by the one or more processors, a domain agent associated with the entry in the context stack"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 12
"merged transcription"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 12
"determining, by the one or more processors, a request based on the merged transcription"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	Claim 12
"communicating, by the one or more processors, the request to the domain agent, wherein the domain agent is configured to generate a response to the user."	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	Claim 12
"wherein the cognitive model is a first cognitive model, and wherein the generating the speech-based transcription is based on a second cognitive model that includes information on one or more interactions between the device and a plurality of users of the device."	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2. Indefinite for failure to disclose structure that performs the recited function of a means plus function claim term pursuant to pre-AIA § 112, para. 6.	Claim 13

4. ’039 Patent

Term	§ 112 Grounds	Relevant Claim(s)
“transcribing the speech and non-speech communications to create a speech-based textual message and a nonspeech-based textual message”	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	All Asserted Claims
“merging the speech-based textual message and the nonspeech-based textual message to generate a query”	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	All Asserted Claims
“searching the query for text combinations”	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
“comparing the text combinations to entries in a context description grammar”	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
“accessing a plurality of domain agents that are associated with the context description grammar”	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
“generating a relevance score based on results from comparing the text combinations to entries in the context description grammar”	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
“obtaining content that is gathered by the selected domain agents”	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	All Asserted Claims
“generating a response from the content, wherein the content is arranged in a selected order based on results from the relevance score”	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims

"generating an aggregate response that includes the content that is gathered by the selected domain agents"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	Claim 14
"transcribing the speech and non-speech communications to create a speech-based textual message and a non-speech-based textual message"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	Claim 15
"merging the follow-up speech-based textual message and the follow-up non-speech-based textual message to generate a follow-up query"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	Claim 15
"generating a context stack that includes one or more contexts that are selected based on the query"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 17
"the one or more contexts are generated based on applying prior probabilities or fuzzy probabilities to (i) keyword matching, (ii) user profiles, (iii) a dialog history, or any combination of (i) to (iii)"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 18

5. '957 Patent

Term	§ 112 Grounds	Relevant Claim(s)
"generating a context stack comprising context information that corresponds to a plurality of prior utterances"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"determining one or more words of the natural language utterance by performing speech recognition"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"identifying . . . one or more context entries that correspond to the one or more words"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1.	All Asserted Claims

	Indefinite pursuant to pre-AIA § 112, para. 2.	
"comparing the plurality of context entries to the one or more words"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"generating, based on the comparison, one or more rank scores for individual context entries of the plurality of context entries"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"identifying, based on the one or more rank scores, the one or more context entries from among the plurality of context entries"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"determining based on the determined one or more words and the context information, the command or the request associated with the natural language utterance"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	All Asserted Claims
"wherein the command or request is determined further based on the non-speech input"	Lack of written description/enablement pursuant to pre-AIA § 112, para. 1. Indefinite pursuant to pre-AIA § 112, para. 2.	Claim 8

B. Grounds of Invalidity Under 35 U.S.C. § 101

Section 101 of the Patent Act limits patent-eligible subject matter to "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. § 101. By enumerating categories of patent-eligible subject matter, Section 101 "contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable" because they are "basic tools of scientific and technological work." *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014). In *Alice*, the Supreme Court set forth a two-step test for determining whether claims impermissibly cover such ineligible concepts.

First, the Court must "determine whether the claims at issue are directed to one of those patent-ineligible concepts," e.g., an abstract idea. *Id*. at 217. Among other concepts, "[t]he category of abstract ideas embraces fundamental economic practices long prevalent in our system of commerce, including longstanding commercial practices and methods of organizing human activity." *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1313 (Fed. Cir. 2016) (quotation omitted). Abstract ideas include activities that, "with the exception of generic computer-implemented steps," can be "performed by a human, mentally or with pen and paper." *Id*. at 1318. This includes "collecting information, analyzing it, and displaying certain results." *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). Furthermore, the "essentially result-focused, functional character of claim language has been a frequent feature of claims held ineligible under § 101, especially in the area of using generic computer and network technology." *Id*. at 1356. Thus, where a claim recites "a desired function or outcome, without providing any limiting detail that confines the claim to a particular solution to an identified problem," the "functional nature of the claim confirms that it is directed to an abstract idea." *Affinity Labs of Tex., LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1269 (Fed. Cir. 2016).

Second, the Court must "determine whether the additional elements [in the claim] transform the nature of the claim" with "an inventive concept . . . sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself." *Alice*, 573 U.S. at 217–18 (quotations omitted). "What is needed is an inventive concept in the non-abstract application realm." *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1168 (Fed. Cir. 2018). To the extent a claim recites non-abstract elements, it is still ineligible if those elements recite "well-understood, routine, conventional activities previously known to the industry." *Alice*, 573 U.S. at 225 (quotation omitted). "[T]he relevant inquiry is not whether the claimed invention as a whole is unconventional or non-routine," but "whether the claim limitations other than the invention's use of the ineligible concept to which it was directed were well-understood, routine and conventional." *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018). Implementing an abstract idea using "conventional computer, network, and display technology for gathering, sending, and presenting the desired information" is "insufficient to pass the test of an inventive concept." *Elec. Power Grp.*, 830 F.3d at 1355 (quotation omitted).

Pursuant to the Court's *Standing Order Regarding Subject Matter Eligibility Contentions Applicable to All Patent Infringement Cases Assigned to Chief District Judge Rodney Gilstrap* (July 25, 2019) (the "Court's Standing Order"), Defendant contends that all Asserted Claims are invalid under 35 U.S.C. § 101 and the two-step *Alice* test due to their failure to claim patent-eligible subject matter. Defendant's ineligibility contentions for each asserted dependent claim incorporate by reference all ineligibility contentions for the parent claim(s). Defendant reserves the right to rely upon expert testimony, documentary evidence, and fact testimony in support of its ineligibility contentions as discovery progresses. Further, Defendant reserves the right to revise and supplement its ineligibility contentions to the extent any claim terms are construed.

Defendant's contentions for subject-matter ineligibility under 35 U.S.C. § 101 may be in the alternative to Defendant's noninfringement positions, claim constructions, and other invalidity or unenforceability defenses. Defendant's contentions as to the subject matter to which claims are directed and/or whether the subject matter of the claims was well understood, routine, and conventional, is not an admission or characterization for purposes of claim construction or infringement, but instead is based on Defendant's current understanding of Plaintiff's purported infringement theories and Plaintiff's assertion of claim scope, which Defendant disputes.

1. '160 Patent

All asserted claims of the '160 Patent are directed to patent-ineligible abstract ideas and fail to recite any inventive concept beyond the abstract realm.

Pursuant to Paragraph (a)(1) of the Court's Standing Order, Defendant provides the following chart identifying each exception to eligibility to which each challenged claim is directed and the factual and legal basis therefor. The chart below further identifies whether one or more of the challenged claims are representative of any other challenged claims.

’160 Challenged Claims	Exception to Eligibility: Abstract Idea
Claims 12 and 13 **Representative Claims:** Both claims 12 and 13 are representative—i.e., claim 12 is representative of claim 13, and claim 13 is representative of claim 12. Thus, either claim 12 or claim 13 can be used to assess the ineligibility of both claims 12 and 13.	The challenged claims of the ’160 Patent are directed to an abstract idea—e.g., matching information and scoring matches to select the highest-scoring match. Both claims recite functional, result-oriented steps for (1) receiving a transcription / transcribing a received utterance, (2) identifying contexts by comparing and matching information (e.g., transcribed text combinations vs. stored contextual information), (3) scoring each matching context, (4) selecting the highest-scoring match, and (5) communicating a request. Apart from generically receiving and sending data, the claims merely recite steps for matching information and scoring matches to select the highest-scoring match. This is an ineligible abstract idea. Courts have repeatedly invalidated claims directed to “familiar concepts of ranking and selecting” the highest-ranked or scored option, particularly where (as here) “[t]he claim does not specify any particular metric or method for ranking.” *Cisco Sys., Inc. v. Uniloc 2017 LLC*, 813 F. App’x 495, 497–98 (Fed. Cir. 2020) (invalidating claims for “ranking stations based on antenna performance characteristics and selecting the station with the highest rank”); *see also, e.g.*, *Free Stream Media Corp. v. Alphonso Inc.*, 996 F.3d 1355, 1361–62 (Fed. Cir. 2021) (invalidating claims “directed to: (1) gathering information about television users’ viewing habits; (2) matching the information with other content . . . based on relevancy to the television viewer; and (3) sending that content to a second device”); *Semantic Search Techs. LLC v. Aldo U.S., Inc.*, 425 F. Supp. 3d 758, 776 (E.D. Tex. 2019) (invalidating claims for “collecting information from the user,” “maintaining and storing potentially related information,” and “ranking information based on potential relevancy (scoring)”); *Receivership Est. of AudienceScience Inc. v. Google LLC*, No. 22-CV-04756-EJD, 2024 WL 1975473, at *6 (N.D. Cal. May 2, 2024) (invalidating claims for “selecting [a] subject in accordance with a selection weighting for each subject based upon a performance score”); *Relevant Holdings, LLC v. MindGeek USA Inc.*, No. 2:21-CV-03174-MCS-KES, 2021 WL 6103350, at *4 (C.D. Cal. Aug. 30, 2021) (invalidating claims for “ranking categories . . . based on applying a multivariate mathematical formula to generate a score”); *S.I.SV.EL. Societa Italiana per lo Sviluppo Dell’ Elettronica S.p.A v. Rhapsody Int’l Inc.*, No. CV 18-69-MN-CJB, 2019 WL 2491898, at *6 (D. Del. June 14, 2019) (invalidating claims for “ranking attributes based on the highest factor”).

’160 Challenged Claims	Exception to Eligibility: Abstract Idea
	That the claims recite the functional result of determining a user’s “intent” and/or “likely context” does not change the result and only reinforces that the claims are directed to an abstract idea. *See, e.g.*, *USC IP P’ship, L.P. v. Meta Platforms, Inc.*, No. 22-1397, 2023 WL 5606977, at *3 (Fed. Cir. Aug. 30, 2023) (“using computers to predict the intent of [a user] is insufficient to render the idea non-abstract”). Furthermore, matching information and scoring matches to select the highest-scoring match is an abstract idea because it constitutes a longstanding and fundamental human practice, dating back to the earliest examples of human writing and recordkeeping. *See Intell. Ventures*, 838 F.3d at 1313. Interpreting natural-language requests is equally fundamental and longstanding, and humans routinely do this in their minds. The challenged claims are also abstract because, “with the exception of generic computer-implemented steps,” they can be “performed by a human, mentally or with pen and paper.” *Id*. at 1318. A human could perform the same steps to receive a transcription or transcribe an utterance, identify contexts by comparing data, score each context, select the highest-scoring context, and communicate a request. For example, humans in customer service departments, help lines, and operators rely on preexisting contexts, responses, and guidelines developed for responding to customer requests or questions, and will analyze the words in a customer’s request to rank responsive options or guidelines to use, and determine the appropriate department or service for handling the customer’s request. *See Elec. Power Grp.*, 830 F.3d at 1353 (holding that claims for “collecting information, analyzing it, and displaying certain results” are directed to mental processes). Indeed, the specification admits that the claimed invention simulates human activity. *See* ’160 patent at 4:17–18 (“the system may simulate some aspects of a human ‘personality’”), 6:32–37 (invention will “simulate the behavioral characteristics of real humans” and “also randomizes aspects of responses, just as a real human would do”), 8:6–8 (“This process may simulate the manner in which a human would address multiple questions from various sources.”). In addition, the claims are directed to an abstract idea because they are entirely functional and result-oriented—e.g., they do not recite *how* contexts are “identif[ied],” “compar[ed],” or “scor[ed].” Because the claims recite “a desired function or outcome, without providing any limiting detail that confines the claim to a particular solution to an identified problem,” the “functional nature of the claim confirms that it is directed to an abstract idea.” *Affinity Labs*, 838 F.3d at 1269.

’160 Challenged Claims	Exception to Eligibility: Abstract Idea
	Moreover, the alleged point of novelty in the Amended Complaint and the prosecution history confirm that the challenged claims are directed to an abstract idea. The purported novelty over the prior art of record during prosecution was that the cited art allegedly did “not disclose or suggest comparing text combinations against both grammar expression entries in the context description grammar and against one or more expected contexts stored in a context stack.” Dkt. 22 ¶ 37 (quoting ’160 File History, Notice of Allowability (April 6, 2009) at 2). This alleged novelty, however, is merely comparing one set of textual information to another set of textual information. This is entirely in the abstract realm, is a fundamental human practice, could be practiced in the human mind or on pen and paper, and is recited in purely functional terms.

Pursuant to Paragraphs (a)(2) and (3) of the Court’s Standing Order, the following chart includes a description of the industry, at the relevant time, in which the asserted claims are alleged to be well understood, routine, and conventional, and the factual and legal basis therefor; and a description of how each element of each asserted claim, both individually and in combination with the other elements of that claim, was: (i) well understood; (ii) routine; and (iii) conventional, in the relevant industry at the relevant time, and the legal and factual basis therefor; and any other factual or legal basis for how the claims are otherwise ineligible for patent protection. In providing contentions that elements of the claims were well understood, routine, and conventional, Defendant does not concede that any claim elements lie beyond the abstract realm. Defendant contends that all elements of the asserted claims are abstract, such that they cannot provide an inventive concept as a matter of law. *See, e.g.*, *SAP*, 898 F.3d at 1168; *BSG*, 899 F.3d at 1290.

’160 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
12. A method for interpreting natural language utterances using knowledge-enhanced speech recognition engine, wherein the knowledge-enhanced speech recognition	As of the priority date, as shown in Sections IV.A and IV.B.1-2 and in the Ex. A charts, the relevant industry of natural-language interpretation for spoken commands / requests was mature and well-developed. The specification of the ’160 patent admits that “[s]peech recognition has steadily improved in accuracy and today is

’160 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
engine is configured to determine an intent and correct false recognitions of the natural language utterances, comprising: receiving a transcription of a natural language utterance at a computer comprising the knowledge-enhanced speech recognition engine; identifying one or more contexts that completely or partially match one or more text combinations contained in the transcription, wherein identifying the matching contexts includes comparing the text combinations against the grammar expression entries in the context description grammar and against one or more expected contexts stored in a context stack; scoring each of the identified matching contexts; selecting the matching context having a highest score to determine a most likely context for the utterance; and communicating a request to a domain agent configured to process requests in the most likely context for the utterance, the request formulated using at least one grammar expression entry in the context description grammar.	successfully used in a wide range of applications,” and “[n]atural language processing has been applied to the parsing of speech queries.” ’160 patent at 1:35–38. Apart from generically and functionally described “engine,” “computer,” and “domain agent” elements, the claims do not recite any hardware, and the claims do not purport to require any specialized hardware or software. Instead, the specification makes clear that the alleged invention can be carried out using preexisting, conventional computers. *See, e.g.*, ’160 patent at 3:25–28 (“the computer devices or systems may comprise stand alone or networked PCs, personal digital assistants (PDAs), cellular telephones, or other computer devices or systems”), 7:31–38 (“The system may be used in conjunction with a wide range of platform environments. These environments may include, as a peripheral to a PC, a portable or wearable computer or other computer, embedded in a PC or other computer, on a personal digital assistant, such as a PDA with wireless networking capability, . . . on a wireless telephone, or other platforms.”), 7:45–47 (“the system may be deployed in a network of devices that use a common base of agents, data, information, user profiles and histories”). As shown by the disclosures of the prior art charted as part of Exhibit A, which are incorporated by reference, each and every limitation of the challenged claims was well understood, routine, and conventional in the industry. In addition to the individual elements, the ordered combination of recited elements as a whole was equally well understood, routine, and conventional. Indeed, the combination of elements is exactly what a person of skill in the art would expect, with no inventive concept or technical improvement. *See Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1339 (Fed. Cir. 2017) (holding there was “no inventive concept in the ordered combination” where “[t]he claim uses a conventional ordering of steps—first processing the data, then routing it, controlling it, and monitoring its reception—with conventional technology to achieve its desired result,” which does “not contain an inventive concept”). Notably, the Amended Complaint states only purely conclusory allegations that the claims of the ’160 patent “are directed to patentable subject matter,” “directed to innovations that implement and improve a voice recognition system and natural language processing,” “improve on the processing of a natural language utterance by a user,” and “provide specific concrete solutions to the problem of speech recognition in
13. A method for processing natural language utterances, comprising: receiving a natural language utterance at a computer	

’160 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
comprising a multi-pass speech recognition module; transcribing the utterance using the multi-pass speech recognition module, the multi-pass speech recognition module configured to transcribe the utterance into text; identifying one or more contexts that completely or partially match one or more text combinations contained in the text of the transcribed utterance, wherein identifying the matching contexts includes comparing the text combinations against the grammar expression entries in the context description grammar and against one or more expected contexts stored in a context stack; scoring each of the identified matching contexts; selecting the matching context having a highest score to determine a most likely context for the utterance; and communicating a request to a domain agent configured to process requests in the most likely context for the utterance, the request formulated using at least one grammar expression entry in the context description grammar.	existing systems,” which are identical for all asserted patents. Dkt. 22 ¶ 69; *see also id.* ¶ 35. These conclusory allegations are entitled to no weight. *See Simio, LLC v. FlexSim Software Prods., Inc.*, 983 F.3d 1353, 1365 (Fed. Cir. 2020) (disregarding “conclusory statements when evaluating a complaint” for allegations relevant to 35 U.S.C. § 101). Regardless, each limitation of the challenged claims is entirely in the abstract realm because it either restates the abstract idea under *Alice* step one or merely recites purely functional results, without specifying how the recited results are achieved, such that any alleged unconventionality is irrelevant as a matter of law. *See, e.g.*, *Affinity Labs*, 838 F.3d at 1269; *SAP*, 898 F.3d at 1168; *BSG*, 899 F.3d at 1290. Further, although any inventive concept would need to be recited in the claims, and not merely in the specification, even the specification lacks any detail on how the claimed functions could be achieved. Instead, the specification assumes any algorithms for carrying out the claimed functions are well-known to ordinarily skilled artisans. *See, e.g.*, ’160 patent at 11:37–39 (“Agents 106 may include a collection of grammars, criteria handlers, and algorithms that are accessed to respond to a set of requests and/or commands.”). Moreover, because the challenged claims fail to provide sufficient limiting detail as to how the claimed functions are allegedly performed, the claims are unduly preemptive in scope, which confirms they are patent-ineligible. *See Athena Diagnostics, Inc. v. Mayo Collaborative Servs., LLC*, 915 F.3d 743, 752 (Fed. Cir. 2019) (“Preemption is sufficient to render a claim ineligible under § 101, but it is not necessary.”).

Pursuant to Paragraph (b) of the Court’s Standing Order, Defendant relies on the identification of prior art in Section III above, which is produced herewith.

2. ’468 Patent

All asserted claims of the ’468 Patent are directed to patent-ineligible abstract ideas and fail to recite any inventive concept beyond the abstract realm.

Pursuant to Paragraph (a)(1) of the Court’s Standing Order, Defendant provides the following chart identifying each exception to eligibility to which each challenged claim is directed and the factual and legal basis therefor. The chart below further identifies whether one or more of the challenged claims are representative of any other challenged claims.

’468 Challenged Claims	**Exception to Eligibility: Abstract Idea**
19, 25–30, and 32 **Representative Claim:** 19	The challenged claims of the ’468 Patent are directed to an abstract idea—e.g., transcribing and matching information to determine a user’s intent. Representative claim 19 recites functional, result-oriented steps for (1) receiving multi-modal input, (2) identifying a user, (3) creating a transcription based in part on prior interactions, (4) creating a “merged” transcription, (5) identifying and matching information, (6) “determining a most likely context,” (7) identifying a domain agent, (8) communicating a request, and (9) generating a response. Apart from generically receiving and sending data, the claims merely recite steps for transcribing and matching information to determine a user’s intent. This is an ineligible abstract idea. Courts have repeatedly invalidated analogous claims for processing and transcribing information in multi-modal input. *See, e.g.*, *Ginegar LLC v. Slack Techs., Inc.*, 634 F. Supp. 3d 769, 772–73 (N.D. Cal. 2022) (invalidating claims directed to “the abstract idea of combining different message types in a single transcript” that recited “multi-modal transcript unification logic”); *IPA Techs., Inc. v. Amazon.com, Inc.*, 307 F. Supp. 3d 356, 371 (D. Del. 2018) (invalidating claims for a “multi-modal feedback” system that “essentially requires gathering additional data in a non-spoken modality and using the data to modify the initial navigation query . . . from a spoken request”). Similarly, courts have repeatedly invalidated claims for “using computers to predict the intent of [users],” which “is insufficient to render [an] idea non-abstract.” *USC IP*, 2023 WL 5606977, at *3; *see also Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355, 1362 (Fed. Cir. 2023) (invalidating claims that received and compared information to determine the “likelihood of [a] match”); *Free Stream Media*, 996 F.3d at 1361–62 (invalidating claims for “matching

’468 Challenged Claims	Exception to Eligibility: Abstract Idea
	[received] information with other content . . . based on relevancy”). Furthermore, transcribing and matching information to determine a user’s intent is an abstract idea because it constitutes a longstanding and fundamental human practice, dating back to the earliest examples of human translation and interpretation. *See Intell. Ventures*, 838 F.3d at 1313. Interpreting natural-language requests is equally fundamental and longstanding, and humans routinely do this in their minds. The challenged claims are also abstract because, “with the exception of generic computer-implemented steps,” they can be “performed by a human, mentally or with pen and paper.” *Id*. at 1318. A human could perform the same steps to receive multi-modal input (e.g., speech and written correspondence), identify a user / speaker, create a transcription based in part on prior interactions with the speaker, create a transcription that includes other input, identify and match information, and determine a most likely context for the user’s request. For example, humans in customer service departments, help lines, and operators rely on preexisting contexts, responses, and guidelines developed for responding to customer requests or questions, and will analyze the words in a customer’s request (e.g., both spoken requests and written correspondence) to create reports that may include transcripts and determine a most likely context for the customer’s request. *See Elec. Power Grp.*, 830 F.3d at 1353 (holding that claims for “collecting information, analyzing it, and displaying certain results” are directed to mental processes). Indeed, the specification admits that the claimed invention simulates human activity. *See* ’468 patent at 5:36–37 (“the system may simulate some aspects of a human ‘personality’”), 7:62–67 (invention will “simulate the behavioral characteristics of real humans” and “also randomizes aspects of responses, just as a real human would do”), 8:34–36 (“This process may simulate the manner in which a human would address multiple questions from various sources.”). In addition, the claims are directed to an abstract idea because they are entirely functional and result-oriented—e.g., they do not recite *how* a user is “identif[ied],” *how* a transcript is “create[ed],” *how* “prior interactions” are used or a “personalized cognitive model” is “derived,” *how* a transcript is “merg[ed],” *how* entries are “identif[ied],” *how* information is “match[ed],” *how* a most likely context is “determin[ed],” *how* a domain agent is “identif[ied],” or *how* a response is “generat[ed].” Because the claims recite “a desired function or outcome, without providing any limiting detail that confines the claim to a particular solution to an identified problem,” the

’468 Challenged Claims	Exception to Eligibility: Abstract Idea
	“functional nature of the claim confirms that it is directed to an abstract idea.” *Affinity Labs*, 838 F.3d at 1269.

Pursuant to Paragraphs (a)(2) and (3) of the Court’s Standing Order, the following chart includes a description of the industry, at the relevant time, in which the asserted claims are alleged to be well understood, routine, and conventional, and the factual and legal basis therefor; and a description of how each element of each asserted claim, both individually and in combination with the other elements of that claim, was: (i) well understood; (ii) routine; and (iii) conventional, in the relevant industry at the relevant time, and the legal and factual basis therefor; and any other factual or legal basis for how the claims are otherwise ineligible for patent protection. In providing contentions that elements of the claims were well understood, routine, and conventional, Defendant does not concede that any claim elements lie beyond the abstract realm. Defendant contends that all elements of the asserted claims are abstract, such that they cannot provide an inventive concept as a matter of law. *See, e.g.*, *SAP*, 898 F.3d at 1168; *BSG*, 899 F.3d at 1290.

’468 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
19. A method for processing multi-modal natural language inputs, comprising: receiving a multi-modal natural language input at a conversational voice user interface, the multi-modal input including a natural language utterance and a non-speech input provided by a user, wherein a transcription module coupled to the conversational voice user interface transcribes the non-speech input to create a non-speech-based transcription;	As of the priority date, as shown in Sections IV.A, IV.B.1, and IV.B.3 and in the Ex. B charts, the relevant industry of processing and interpreting multi-modal inputs, commands, and requests was mature and well-developed. The specification of the ’468 patent admits that “[s]peech recognition has steadily improved in accuracy and today is successfully used in a wide range of applications,” and “[n]atural language processing has been applied to the parsing of speech queries.” ’468 patent at 1:62–66. The specification admits that a “conventional microphone” may receive an utterance. *Id.* at 31:67. Similarly, the ’468 patent admits that non-speech input is conventional, including “[c]onventional computer interfaces [that] use some combination of keyboards, keypads, point and click techniques and touch screen displays.” *Id.* at 1:29–31. Apart from generically and functionally described “interface,” “engine,” and “domain agent” elements, the claims do not recite any hardware, and the claims do not purport to require any specialized hardware or software. Instead, the specification

’468 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
identifying the user that provided the multi-modal input; creating a speech-based transcription of the natural language utterance using a speech recognition engine and a semantic knowledge-based model, wherein the semantic knowledge-based model includes a personalized cognitive model derived from one or more prior interactions between the identified user and the conversational voice user interface, a general cognitive model derived from one or more prior interactions between a plurality of users and the conversational voice user interface, and an environmental model derived from an environment of the identified user and the conversational voice user interface; merging the speech-based transcription and the non-speech-based transcription to create a merged transcription; identifying one or more entries in a context stack matching information contained in the merged transcription; determining a most likely context for the multi-modal input based on the identified entries; identifying a domain agent associated with the most likely context for the multi-modal input;	makes clear that the alleged invention can be carried out using preexisting, conventional computers. *See, e.g.*, ’468 patent at 3:46–49 (“the system may be deployed in a network of devices that share a common base of agents, data, information, user profiles, histories or other components”), 5:58–59 (“The invention may be applied as a user interface to telematics systems in a wide variety of environments.”), 23:26–35 (“The telematic natural language interface may be deployed as part of, or a peripheral to a TCU or other mobile devices 36, as part of a mobile device interfaced to vehicle computers and other mobile system[s] . . . . Alternatively, the components of the interactive natural language telematic interface may be distributed in any suitable manner between these multiple computing platforms.”). As shown by the disclosures of the prior art charted as part of Exhibit B, which are incorporated by reference, each and every limitation of the challenged claims was well understood, routine, and conventional in the industry. In addition to the individual elements, the ordered combination of recited elements as a whole was equally well understood, routine, and conventional. Indeed, the combination of elements is exactly what a person of skill in the art would expect, with no inventive concept or technical improvement. *See Two-Way Media*, 874 F.3d at 1339 (holding there was “no inventive concept in the ordered combination” where “[t]he claim uses a conventional ordering of steps—first processing the data, then routing it, controlling it, and monitoring its reception—with conventional technology to achieve its desired result,” which does “not contain an inventive concept”). Notably, the Amended Complaint states only purely conclusory allegations that the claims of the ’468 patent “are directed to patentable subject matter,” “directed to innovations that implement and improve a voice recognition system and natural language processing,” “improve on the processing of a natural language utterance by a user,” and “provide specific concrete solutions to the problem of speech recognition in existing systems,” which are identical for all asserted patents. Dkt. 22 ¶ 101; *see also id*. ¶ 41. These conclusory allegations are entitled to no weight. *See Simio*, 983 F.3d at 1365 (disregarding “conclusory statements when evaluating a complaint” for allegations relevant to 35 U.S.C. § 101). Regardless, each limitation of the challenged claims is entirely in the abstract realm because it either restates the abstract idea under *Alice* step one or merely recites purely functional results, without specifying how the recited results are achieved, such that any alleged unconventionality is irrelevant as a matter of

’468 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
communicating a request to the identified domain agent; and generating a response to the user from content provided by the identified domain agent as a result of processing the request.	law. *See, e.g.*, *Affinity Labs*, 838 F.3d at 1269; *SAP*, 898 F.3d at 1168; *BSG*, 899 F.3d at 1290. Further, although any inventive concept would need to be recited in the claims, and not merely in the specification, even the specification lacks any detail on how the claimed functions could be achieved. Instead, the specification assumes any algorithms for carrying out the claimed functions are well-known to ordinarily skilled artisans. *See, e.g.*, ’468 patent at 25:32–34 (“Agents 106 may include a collection of grammars, criteria handlers, and algorithms that are accessed to respond to a set of requests and/or commands.”). Moreover, because the challenged claims fail to provide sufficient limiting detail as to how the claimed functions are allegedly performed, the claims are unduly preemptive in scope, which confirms they are patent-ineligible. *See Athena*, 915 F.3d at 752 (“Preemption is sufficient to render a claim ineligible under § 101, but it is not necessary.”).
25. The method of claim 19, further comprising verifying an identity of the user based on voiceprint matching, password matching, or pass-phrase matching.	See claim 19 Verifying an identity of the user based on voiceprint matching, password matching, or pass-phrase matching was well known, routine, and conventional. *See* Ex. B charts. Regardless, these additional functions are themselves abstract. Neither the claims nor specification recite any novel means of performing these functional results. Instead, the specification assumes a person of ordinary skill in the art would know to implement these functions using conventional, available technologies. *See* ’468 patent at 8:28–31, 11:47–53, 13:44–46. For example, the specification states that a conventional “PIN pad, etc.” can be used to achieve these functions. *Id*. at 13:45.
26. The method of claim 19, further comprising receiving one or more follow-up multi-modal inputs at the conversational voice user interface, the follow-up multi-modal inputs including at least one of a follow-up natural language utterance or a follow-up non-speech input.	See claim 19 Receiving one or more follow-up multi-modal inputs at the conversational voice user interface, the follow-up multi-modal inputs including at least one of a follow-up natural language utterance or a follow-up non-speech input, was well known, routine, and conventional. *See* Ex. B charts. Regardless, these additional functions are themselves abstract. This claim merely limits the claimed receipt of information to “a particular field of information,” which “does not move the claims out of the realm of abstract ideas.” *SAP*, 898 F.3d at 1169; *see also Elec. Power Grp.*, 830 F.3d at 1355 (“enumerating types of information and information sources . .

’468 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
	. for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes”). Moreover, by reciting “follow-up” steps that mirror steps in the independent claim, this claim merely involves repetition of an abstract idea, which is not patent-eligible. *See Trinity Info Media, LLC v. Covalent, Inc.*, 562 F. Supp. 3d 770, 783 (C.D. Cal. 2021), *aff’d*, 72 F.4th 135 (invalidating dependent claims for “repeating the process [of the independent claim] for a plurality of next polling questions”); *cf. In re Harza*, 274 F.2d 669, 671 (C.C.P.A. 1960) (“mere duplication of parts has no patentable significance” absent an unexpected improvement). The specification also admits that “follow-up” input and searching is conventional. ’468 patent at 21:58–59 (“known systems may perform a follow-up search . . .”).
27. The method of claim 26, wherein the identified domain agent updates the context stack and the semantic knowledge-based model in response to processing the request.	See claims 19, 26 Updating a context stack and a semantic knowledge-based model in response to processing the request was well known, routine, and conventional. *See* Ex. B charts. Regardless, these additional functions are themselves abstract. This limitation amounts merely to updating and storing information, which is abstract, post-solution activity. *See Personalized Media Commc’ns, LLC v. Amazon.Com, Inc.*, 161 F. Supp. 3d 325, 332 (D. Del. 2015), *aff’d*, 671 F. App’x 777 (Fed. Cir. 2016) (invalidating claims directed to “the abstract idea of updating operating instructions”); *Bot M8 LLC v. Sony Corp. of Am.*, 465 F. Supp. 3d 1013, 1024 (N.D. Cal. 2020), *aff’d*, 4 F.4th 1342 (Fed. Cir. 2021) (“updating [ ] parameters based on prior results . . . remains abstract”).
28. The method of claim 27, wherein the knowledge-enhanced speech recognition engine determines a most likely context for the follow-up multi-modal input using the updated context stack.	See claims 19, 26–27 Determining a most likely context for the follow-up multi-modal input using the updated context stack was well known, routine, and conventional. *See* Ex. B charts. Regardless, these additional functions are themselves abstract. As noted for claim 26, this claim merely repeats the steps of the independent claim for a “follow-up” iteration, which does not take the claims outside the realm of abstract ideas.
29. The method of claim 27, wherein the speech recognition engine creates a speech-based transcription of the follow-up natural language utterance using the	See claims 19, 26–27 Creating a speech-based transcription of the follow-up natural language utterance using the updated semantic knowledge-based model was well known, routine, and conventional. *See*

’468 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
updated semantic knowledge-based model.	Ex. B charts. Regardless, these additional functions are themselves abstract. As noted for claim 26, this claim merely repeats the steps of the independent claim for a “follow-up” iteration, which does not take the claims outside the realm of abstract ideas.
30. The method of claim 19, wherein the identified domain agent processes the request by querying one or more local or network information sources.	See claim 19 Querying one or more local or network information sources was well known, routine, and conventional. *See* Ex. B charts. Regardless, these additional functions are themselves abstract. This limitation amounts to sending and receiving information over a network, which is abstract. *See ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019) (invalidating claims directed to “the abstract idea of communicating requests to a remote server and receiving communications from that server, i.e., communication over a network”).
32. The method of claim 19, wherein the identified domain agent processes the request by directing a command to one or more local or remote devices.	See claim 19 Processing the request by directing a command to one or more local or remote devices was well known, routine, and conventional. *See* Ex. B charts. Regardless, these additional functions are themselves abstract. The “local or remote devices” are entirely generic, conventional computers. Merely directing a command to such a device is purely abstract. *See ChargePoint, Inc. v. SemaConnect, Inc.*, No. CV MJG-17-3717, 2018 WL 1471685, at *9 (D. Md. Mar. 23, 2018), *aff’d*, 920 F.3d 759 (invalidating claims to “the abstract idea of sending requests, receiving commands, and executing commands on a device over a network.”).

Pursuant to Paragraph (b) of the Court’s Standing Order, Defendant relies on the identification of prior art in Section III above, which is produced herewith.

3. ’607 Patent

All asserted claims of the ’607 Patent are directed to patent-ineligible abstract ideas and fail to recite any inventive concept beyond the abstract realm.

Pursuant to Paragraph (a)(1) of the Court’s Standing Order, Defendant provides the following chart identifying each exception to eligibility to which each challenged claim is directed and the factual and legal basis therefor. The chart below further identifies whether one or more of the challenged claims are representative of any other challenged claims.

’607 Challenged Claims	Exception to Eligibility: Abstract Idea
12, 13 **Representative Claim:** 12	The challenged claims of the ’607 Patent are directed to an abstract idea—e.g., transcribing and matching information to determine a user’s intent. Representative claim 12 recites functional, result-oriented steps for (1) receiving multi-modal input, (2) transcribing non-speech input, (3) identifying a user, (4) transcribing speech input based partly on prior interactions with the user, (5) creating a “merged” transcription, (6) identifying and matching information, (7) identifying a “domain agent,” (8) determining a request, and (9) communicating the request. Apart from generically receiving and processing data, the claims merely recite steps for transcribing and matching information to determine a user’s intent. This is an ineligible abstract idea. Courts have repeatedly invalidated analogous claims for processing and transcribing information in multi-modal input. *See, e.g.*, *Ginegar LLC*, 634 F. Supp. 3d at 772–73 (invalidating claims directed to “the abstract idea of combining different message types in a single transcript” that recited “multi-modal transcript unification logic”); *IPA Techs.*, 307 F. Supp. 3d at 371 (invalidating claims for a “multi-modal feedback” system that “essentially requires gathering additional data in a non-spoken modality and using the data to modify the initial navigation query . . . from a spoken request”). Similarly, courts have repeatedly invalidated claims for “using computers to predict the intent of [users],” which “is insufficient to render [an] idea non-abstract.” *USC IP*, 2023 WL 5606977, at *3; *see also Trinity Info*, 72 F.4th at 1362 (invalidating claims that received and compared information to determine the “likelihood of [a] match”); *Free Stream Media*, 996 F.3d at 1361–62 (invalidating claims for “matching [received] information with other content . . . based on relevancy”). Furthermore, transcribing and matching information to determine a user’s intent is an abstract idea because it constitutes a longstanding and fundamental human practice, dating back to the earliest examples of human translation and interpretation. *See Intell. Ventures*, 838 F.3d at 1313. Interpreting natural-language requests is equally fundamental and longstanding, and humans routinely do this in their minds. The challenged claims are also abstract because, “with the exception of generic computer-implemented steps,” they can

’607 Challenged Claims	Exception to Eligibility: Abstract Idea
	be “performed by a human, mentally or with pen and paper.” *Id*. at 1318. Indeed, a human could perform the same steps to receive multi-modal input (e.g., speech, written requests, etc.), identify a user / speaker, create a transcription based in part on prior interactions with the speaker, create a transcription that includes other input, identify and match information, and determine the user’s request. For example, humans in customer service departments, help lines, and operators rely on preexisting contexts, responses, and guidelines developed for responding to customer requests or questions, and will analyze the words in a customer’s request (e.g., both spoken and written requests) to create reports that may include transcripts and match information to determine the customer’s request. *See Elec. Power Grp.*, 830 F.3d at 1353 (holding that claims for “collecting information, analyzing it, and displaying certain results” are directed to mental processes). Indeed, the specification admits that the claimed invention simulates human activity. *See* ’607 patent at 5:36–37 (“the system may simulate some aspects of a human ‘personality’”), 7:62–67 (invention will “simulate the behavioral characteristics of real humans” and “also randomizes aspects of responses, just as a real human would do”), 8:34–36 (“This process may simulate the manner in which a human would address multiple questions from various sources.”). In addition, the claims are directed to an abstract idea because they are entirely functional and result-oriented—e.g., they do not recite *how* a user is “identif[ied],” *how* transcriptions are “generat[ed],” *how* “prior interactions” are used or a “cognitive model” is “associated,” *how* a transcription is “merg[ed],” *how* entries are “identif[ied],” *how* information is “match[ed],” *how* a most likely context is “determin[ed],” *how* a domain agent is “identif[ied],” or *how* a request is “determin[ed].” Because the claims recite “a desired function or outcome, without providing any limiting detail that confines the claim to a particular solution to an identified problem,” the “functional nature of the claim confirms that it is directed to an abstract idea.” *Affinity Labs*, 838 F.3d at 1269.

Pursuant to Paragraphs (a)(2) and (3) of the Court’s Standing Order, the following chart includes a description of the industry, at the relevant time, in which the asserted claims are alleged to be well understood, routine, and conventional, and the factual and legal basis therefor; and a description of how each element of each asserted claim, both individually and in combination with the other elements of that claim, was: (i) well understood; (ii) routine; and (iii) conventional, in the relevant industry at the relevant time, and the legal and factual basis therefor; and any other factual or legal basis for how the claims are otherwise ineligible for patent protection. In providing contentions that elements of the claims were well understood, routine, and conventional, Defendant does not concede that any claim elements lie beyond the abstract realm. Defendant contends that all elements of the asserted claims are abstract, such that they cannot provide an inventive concept as a matter of law. *See, e.g.*, *SAP*, 898 F.3d at 1168; *BSG*, 899 F.3d at 1290.

’607 Patent Claim	**Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional**
12. A method for processing natural language inputs, comprising: receiving, by one or more processors, a multi-modal natural language input from a user, the multi-modal natural language input including a natural language utterance and a non-speech input; generating, by the one or more processors, a non-speech transcription from the non-speech input; identifying, by the one or more processors, the user who provided the multi-modal natural language input; generating, by the one or more processors, a speech-based transcription based on a cognitive model associated with the user, wherein the cognitive model includes information on one or more prior interactions between the user and the device; generating, by the one or more processors, a merged transcription from the speech-based transcription	As of the priority date, as shown in Sections IV.A, IV.B.1, and IV.B.4 and in the Ex. C charts, the relevant industry of processing and interpreting multi-modal inputs, commands, and requests was mature and well-developed. The specification of the ’607 patent admits that “[s]peech recognition has steadily improved in accuracy and today is successfully used in a wide range of applications,” and “[n]atural language processing has been applied to the parsing of speech queries.” ’607 patent at 1:65–2:2. The specification admits that a “conventional microphone” may receive an utterance. *Id.* at 31:67. Similarly, the ’607 patent admits that non-speech input is conventional, including “[c]onventional computer interfaces [that] use some combination of keyboards, keypads, point and click techniques and touch screen displays.” *Id.* at 1:32–34. Apart from generically and functionally described “processors” and “domain agent” elements, the claims do not recite any hardware, and the claims do not purport to require any specialized hardware or software. Instead, the specification makes clear that the alleged invention can be carried out using preexisting, conventional computers. *See, e.g.*, ’607 patent at 3:49–52 (“the system may be deployed in a network of devices that share a common base of agents, data, information, user profiles, histories or other components”), 5:58–59 (“The invention may be applied as a user interface to telematics systems in a wide variety of environments.”), 23:26–35 (“The telematic natural language interface may be deployed as part of, or a peripheral to a TCU or other mobile devices 36, as part of a mobile device interfaced to vehicle computers and other mobile system[s] . . . . Alternatively, the components of the interactive natural language telematic interface may be distributed in any suitable manner between these multiple computing platforms.”). As shown by the disclosures of the prior art charted as part of Exhibit C, which are incorporated by reference, each and every

’607 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
and the non-speech transcription; identifying, by the one or more processors, an entry in a context stack, from among a plurality of entries that are in the context stack and that are each indicative of context, wherein the identified entry matches information in the merged transcription; identifying, by the one or more processors, a domain agent associated with the entry in the context stack; determining, by the one or more processors, a request based on the merged transcription; and communicating, by the one or more processors, the request to the domain agent, wherein the domain agent is configured to generate a response to the user.	limitation of the challenged claims was well understood, routine, and conventional in the industry. In addition to the individual elements, the ordered combination of recited elements as a whole was equally well understood, routine, and conventional. Indeed, the combination of elements is exactly what a person of skill in the art would expect, with no inventive concept or technical improvement. *See Two-Way Media*, 874 F.3d at 1339 (holding there was “no inventive concept in the ordered combination” where “[t]he claim uses a conventional ordering of steps—first processing the data, then routing it, controlling it, and monitoring its reception—with conventional technology to achieve its desired result,” which does “not contain an inventive concept”). Notably, the Amended Complaint states only purely conclusory allegations that the claims of the ’607 patent “are directed to patentable subject matter,” “directed to innovations that implement and improve a voice recognition system and natural language processing,” “improve on the processing of a natural language utterance by a user,” and “provide specific concrete solutions to the problem of speech recognition in existing systems,” which are identical for all asserted patents. Dkt. 22 ¶ 137; *see also id.* ¶ 47. These conclusory allegations are entitled to no weight. *See Simio*, 983 F.3d at 1365 (disregarding “conclusory statements when evaluating a complaint” for allegations relevant to 35 U.S.C. § 101). Regardless, each limitation of the challenged claims is entirely in the abstract realm because it either restates the abstract idea under *Alice* step one or merely recites purely functional results, without specifying how the recited results are achieved, such that any alleged unconventionality is irrelevant as a matter of law. *See, e.g.*, *Affinity Labs*, 838 F.3d at 1269; *SAP*, 898 F.3d at 1168; *BSG*, 899 F.3d at 1290. Further, although any inventive concept would need to be recited in the claims, and not merely in the specification, even the specification lacks any detail on how the claimed functions could be achieved. Instead, the specification assumes any algorithms for carrying out the claimed functions are well-known to ordinarily skilled artisans. *See, e.g.*, ’607 patent at 25:32–34 (“Agents 106 may include a collection of grammars, criteria handlers, and algorithms that are accessed to respond to a set of requests and/or commands.”). Moreover, because the challenged claims fail to provide sufficient limiting detail as to how the claimed functions are allegedly performed, the claims are unduly preemptive in scope, which confirms they are patent-ineligible. *See Athena*, 915 F.3d

’607 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
	at 752 (“Preemption is sufficient to render a claim ineligible under § 101, but it is not necessary.”).
13. The method of claim 12, wherein the cognitive model is a first cognitive model, and wherein the generating the speech-based transcription is based on a second cognitive model that includes information on one or more interactions between the device and a plurality of users of the device.	See claim 12 Generating a speech-based transcription based on a second cognitive model that includes information on one or more interactions between the device and a plurality of users of the device was well known, routine, and conventional. *See* Ex. C charts. Regardless, these additional functions are themselves abstract. This claim element merely duplicates functional language in the independent claim, which does not move the claims beyond the abstract realm. The idea of generating information based on prior interactions with users is itself an abstract idea. At most, this limitation merely limits the claimed processing to “a particular field of information,” which “does not move the claims out of the realm of abstract ideas.” *SAP*, 898 F.3d at 1169; *see also Elec. Power Grp.*, 830 F.3d at 1355 (“enumerating types of information and information sources . . . for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes”).

Pursuant to Paragraph (b) of the Court’s Standing Order, Defendant relies on the identification of prior art in Section III above, which is produced herewith.

4. ’039 Patent

All asserted claims of the ’039 Patent are directed to patent-ineligible abstract ideas and fail to recite any inventive concept beyond the abstract realm.

Pursuant to Paragraph (a)(1) of the Court’s Standing Order, Defendant provides the following chart identifying each exception to eligibility to which each challenged claim is directed and the factual and legal basis therefor. The chart below further identifies whether one or more of the challenged claims are representative of any other challenged claims.

’039 Challenged Claims	Exception to Eligibility: Abstract Idea
Claims 13–15, 17–18	The challenged claims of the ’039 Patent are directed to an abstract idea—e.g., transcribing and comparing information and scoring comparisons to make a selection.

’039 Challenged Claims	Exception to Eligibility: Abstract Idea
Representative Claim: 13	Representative claim 13 recites functional, result-oriented steps for (1) receiving multi-modal communications, (2) transcribing them, (3) merging transcripts and generating a query, (4) searching the query for information, (5) comparing the information to stored information, (6) accessing “domain agents” associated with the information, (7) generating a relevance score, (8) selecting an agent based on the score, (9) receiving content from the agents, and (10) generating a response. Apart from generically receiving and sending data, the claims merely recite steps for transcribing and comparing information and scoring comparisons to make a selection. This is an ineligible abstract idea. Courts have repeatedly invalidated analogous claims for processing and transcribing information in multi-modal input. *See, e.g.*, *Ginegar LLC*, 634 F. Supp. 3d at 772–73 (invalidating claims directed to “the abstract idea of combining different message types in a single transcript” that recited “multi-modal transcript unification logic”); *IPA Techs.*, 307 F. Supp. 3d at 371 (invalidating claims for a “multi-modal feedback” system that “essentially requires gathering additional data in a non-spoken modality and using the data to modify the initial navigation query . . . from a spoken request”). Likewise, courts have repeatedly invalidated claims directed to “familiar concepts of ranking and selecting” the highest-ranked or scored option, particularly where (as here) “[t]he claim does not specify any particular metric or method for ranking.” *Cisco*, 813 F. App’x at 497–98 (invalidating claims for “ranking stations based on antenna performance characteristics and selecting the station with the highest rank”); *see also, e.g.*, *Free Stream Media*, 996 F.3d at 1361–62 (invalidating claims “directed to: (1) gathering information about television users’ viewing habits; (2) matching the information with other content . . . based on relevancy to the television viewer; and (3) sending that content to a second device”); *Trinity Info*, 72 F.4th at 1362 (invalidating claims that received and compared information to determine the “likelihood of [a] match”); *Semantic Search*, 425 F. Supp. 3d at 776 (invalidating claims for “collecting information from the user,” “maintaining and storing potentially related information,” and “ranking information based on potential relevancy (scoring)”); *AudienceScience*, 2024 WL 1975473, at *6 (invalidating claims for “selecting [a] subject in accordance with a selection weighting for each subject based upon a performance score”); *Relevant Holdings*, 2021 WL 6103350, at *4 (invalidating claims for “ranking categories . . . based on applying a multivariate mathematical formula to generate a score”); *S.I.SV.EL.*, 2019 WL 2491898,

’039 Challenged Claims	Exception to Eligibility: Abstract Idea
	at *6 (invalidating claims for “ranking attributes based on the highest factor”). Furthermore, transcribing and comparing information and scoring comparisons to make a selection is an abstract idea because it constitutes a longstanding and fundamental human practice, dating back to the earliest examples of human translation, writing, and recordkeeping. *See Intell. Ventures*, 838 F.3d at 1313. Interpreting natural-language requests is equally fundamental and longstanding, and humans routinely do this in their minds. The challenged claims are also abstract because, “with the exception of generic computer-implemented steps,” they can be “performed by a human, mentally or with pen and paper.” *Id*. at 1318. Indeed, a human could perform the same steps to receive speech and non-speech inputs, transcribe and merge the messages to determine a query, compare text combinations in the query to prior information, generate a relevancy score, and select and obtain content from corresponding sources. For example, humans in customer service departments, help lines, and operators rely on preexisting contexts, responses, and guidelines developed for responding to customer requests or questions (both spoken and in written correspondence), and will create reports that may include transcripts, compare combinations of words in the customer’s requests to previous requests and guidelines, and rank and determine the most likely response or guideline to follow / connect the customer to the appropriate department or service for their request. *See Elec. Power Grp.*, 830 F.3d at 1353 (holding that claims for “collecting information, analyzing it, and displaying certain results” are directed to mental processes). Indeed, the specification admits that the claimed invention simulates human activity. *See* ’039 patent at 4:34–35 (“the system may simulate some aspects of a human ‘personality’”), 6:51–55 (invention will “simulate the behavioral characteristics of real humans” and “also randomizes aspects of responses, just as a real human would do”), 8:24–26 (“This process may simulate the manner in which a human would address multiple questions from various sources.”). In addition, the claims are directed to an abstract idea because they are entirely functional and result-oriented—e.g., they do not recite *how* communications are “transcrib[ed]” or “merg[ed],” *how* to “search[]” for text combinations, *how* text combinations are “compar[ed],” *how* domain agents are “associat[ed],” *how* a relevance score is “generat[ed],” *how* a domain agent is “select[ed],” or *how* a response is “generat[ed].” Because the claims recite “a desired function or outcome, without providing any limiting detail that confines

’039 Challenged Claims	Exception to Eligibility: Abstract Idea
	the claim to a particular solution to an identified problem,” the “functional nature of the claim confirms that it is directed to an abstract idea.” *Affinity Labs*, 838 F.3d at 1269.

Pursuant to Paragraphs (a)(2) and (3) of the Court’s Standing Order, the following chart includes a description of the industry, at the relevant time, in which the asserted claims are alleged to be well understood, routine, and conventional, and the factual and legal basis therefor; and a description of how each element of each asserted claim, both individually and in combination with the other elements of that claim, was: (i) well understood; (ii) routine; and (iii) conventional, in the relevant industry at the relevant time, and the legal and factual basis therefor; and any other factual or legal basis for how the claims are otherwise ineligible for patent protection. In providing contentions that elements of the claims were well understood, routine, and conventional, Defendant does not concede that any claim elements lie beyond the abstract realm. Defendant contends that all elements of the asserted claims are abstract, such that they cannot provide an inventive concept as a matter of law. *See, e.g.*, *SAP*, 898 F.3d at 1168; *BSG*, 899 F.3d at 1290.

’039 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
13. A method of processing speech and non-speech communications, comprising: receiving the speech and non-speech communications; transcribing the speech and non-speech communications to create a speech-based textual message and a non-speech-based textual message; merging the speech-based textual message and the non-speech-based textual message to generate a query; searching the query for text combinations;	As of the priority date, as shown in Sections IV.A, IV.B.1, and IV.B.5 and in the Ex. D charts, the relevant industry of natural-language interpretation for spoken commands / requests was mature and well-developed. The specification of the ’039 patent admits that “[s]peech recognition has steadily improved in accuracy and today is successfully used in a wide range of applications,” and “[n]atural language processing has been applied to the parsing of speech queries.” ’039 patent at 1:54–55. Apart from generically and functionally described “domain agent” elements, the claims do not recite any hardware, and the claims do not purport to require any specialized hardware or software. Instead, the specification makes clear that the alleged invention can be carried out using preexisting, conventional computers. *See, e.g.*, ’039 patent at 3:41–44 (“the computer devices or systems may comprise stand alone or networked PCs, personal digital assistants (PDAs), cellular telephones, or other computer devices or systems”), 7:49–56

’039 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
comparing the text combinations to entries in a context description grammar; accessing a plurality of domain agents that are associated with the context description grammar; generating a relevance score based on results from comparing the text combinations to entries in the context description grammar; selecting one or more domain agents based on results from the relevance score; obtaining content that is gathered by the selected domain agents; and generating a response from the content, wherein the content is arranged in a selected order based on results from the relevance score.	(“The system may be used in conjunction with a wide range of platform environments. These environments may include, as a peripheral to a PC, a portable or wearable computer or other computer, embedded in a PC or other computer, on a personal digital assistant, such as a PDA with wireless networking capability, . . . on a wireless telephone, or other platforms.”), 7:63–65 (“the system may be deployed in a network of devices that use a common base of agents, data, information, user profiles and histories”). As shown by the disclosures of the prior art charted as part of Exhibit D, which are incorporated by reference, each and every limitation of the challenged claims was well understood, routine, and conventional in the industry. In addition to the individual elements, the ordered combination of recited elements as a whole was equally well understood, routine, and conventional. Indeed, the combination of elements is exactly what a person of skill in the art would expect, with no inventive concept or technical improvement. *See Two-Way Media*, 874 F.3d at 1339 (holding there was “no inventive concept in the ordered combination” where “[t]he claim uses a conventional ordering of steps—first processing the data, then routing it, controlling it, and monitoring its reception—with conventional technology to achieve its desired result,” which does “not contain an inventive concept”). Notably, the Amended Complaint states only purely conclusory allegations that the claims of the ’039 patent “are directed to patentable subject matter,” “directed to innovations that implement and improve a voice recognition system and natural language processing,” “improve on the processing of a natural language utterance by a user,” and “provide specific concrete solutions to the problem of speech recognition in existing systems,” which are identical for all asserted patents. Dkt. 22 ¶ 170; *see also id*. ¶ 51. These conclusory allegations are entitled to no weight. *See Simio*, 983 F.3d at 1365 (disregarding “conclusory statements when evaluating a complaint” for allegations relevant to 35 U.S.C. § 101). Regardless, each limitation of the challenged claims is entirely in the abstract realm because it either restates the abstract idea under *Alice* step one or merely recites purely functional results, without specifying how the recited results are achieved, such that any alleged unconventionality is irrelevant as a matter of law. *See, e.g.*, *Affinity Labs*, 838 F.3d at 1269; *SAP*, 898 F.3d at 1168; *BSG*, 899 F.3d at 1290.

’039 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
	Further, although any inventive concept would need to be recited in the claims, and not merely in the specification, even the specification lacks any detail on how the claimed functions could be achieved. Instead, the specification assumes any algorithms for carrying out the claimed functions are well-known to ordinarily skilled artisans. *See, e.g.*, ’039 patent at 11:54–56 (“Agents 106 may include a collection of grammars, criteria handlers, and algorithms that are accessed to respond to a set of requests and/or commands.”). Moreover, because the challenged claims fail to provide sufficient limiting detail as to how the claimed functions are allegedly performed, the claims are unduly preemptive in scope, which confirms they are patent-ineligible. *See Athena*, 915 F.3d at 752 (“Preemption is sufficient to render a claim ineligible under § 101, but it is not necessary.”).
14. The method according to claim 13, further comprising generating an aggregate response that includes the content that is gathered by the selected domain agents.	See claim 13 Generating an aggregate response that includes the content that is gathered by the selected domain agents was well known, routine, and conventional. *See* Ex. D charts. Regardless, these additional functions are themselves abstract. This claim element merely duplicates functional language (“generating an aggregate response”) in the independent claim, which does not move the claims beyond the abstract realm. The idea of generating an aggregate response that includes content gathered from sources is itself an abstract idea. At most, this limitation merely limits the claimed processing to “a particular field of information,” which “does not move the claims out of the realm of abstract ideas.” *SAP*, 898 F.3d at 1169; *see also Elec. Power Grp.*, 830 F.3d at 1355 (“enumerating types of information and information sources . . . for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes”).
15. The method according to claim 13, further comprising: receiving a follow-up speech and non-speech communications; transcribing the follow-up speech and non-speech communications to create a follow-up speech-based textual message and a follow-up non-speech-based textual message; and merging the follow-up speech-based	See claim 13 Receiving a follow-up speech and non-speech communications; transcribing the follow-up speech and non-speech communications to create a follow-up speech-based textual message and a follow-up non-speech-based textual message; and merging the follow-up speech-based textual message and the follow-up non-speech-based textual message to generate a follow-up query was well known, routine, and conventional. *See* Ex. D charts. Regardless, these additional functions are themselves abstract.

’039 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
textual message and the follow-up non-speech-based textual message to generate a follow-up query.	This claim merely limits the claimed receipt, transcription, and merging of information to “a particular field of information,” which “does not move the claims out of the realm of abstract ideas.” *SAP*, 898 F.3d at 1169; *see also Elec. Power Grp.*, 830 F.3d at 1355 (“enumerating types of information and information sources . . . for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes”). Moreover, by reciting “follow-up” steps that mirror steps in the independent claim, this claim merely involves repetition of an abstract idea, which is not patent-eligible. *See Trinity Info Media*, 562 F. Supp. 3d at 783, *aff’d*, 72 F.4th 135 (invalidating dependent claims for “repeating the process [of the independent claim] for a plurality of next polling questions”); *cf. Harza*, 274 F.2d at 671 (“mere duplication of parts has no patentable significance” absent unexpected improvement).
17. The method according to claim 13, further comprising generating a context stack that includes one or more contexts that are selected based on the query.	See claim 13 Generating a context stack that includes one or more contexts that are selected based on the query was well known, routine, and conventional. *See* Ex. D charts. Regardless, these additional functions are themselves abstract. The idea of generating a context stack that includes one or more contexts that are selected based on the query is itself an abstract idea. At most, this limitation merely limits the claimed processing to “a particular field of information,” which “does not move the claims out of the realm of abstract ideas.” *SAP*, 898 F.3d at 1169; *see also Elec. Power Grp.*, 830 F.3d at 1355 (“enumerating types of information and information sources . . . for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes”).
18. The method according to claim 17, wherein the one or more contexts are generated based on applying prior probabilities or fuzzy possibilities to (i) keyword matching, (ii) user profiles, (iii) a dialog history, or any combination of (i) to (iii).	See claims 13, 17 Generating one or more contexts based on applying prior probabilities or fuzzy possibilities to (i) keyword matching, (ii) user profiles, (iii) a dialog history, or any combination of (i) to (iii) was well known, routine, and conventional. *See* Ex. D charts. Regardless, these additional functions are themselves abstract. The idea of generating contexts based on “prior probabilities or fuzzy possibilities” and based on known input or information about a user is itself an abstract idea. At most, this limitation merely limits the claimed processing to “a particular field of information,” which “does not move the claims out of

’039 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
	the realm of abstract ideas.” *SAP*, 898 F.3d at 1169; *see also Elec. Power Grp.*, 830 F.3d at 1355 (“enumerating types of information and information sources . . . for collection, analysis, and display does nothing significant to differentiate a process from ordinary mental processes”); *Affinity Labs*, 838 F.3d at 1271 (“tailoring of content based on information about the user . . . is an abstract idea”). Moreover, the specification admits that “using a probabilistic or fuzzy set decision method for each user” merely “simulate[s] the manner in which a human would address multiple questions from various sources,” which confirms that this is an abstract idea analogous to a mental or pen-and-paper process. ’039 patent at 8:22–26.

Pursuant to Paragraph (b) of the Court’s Standing Order, Defendant relies on the identification of prior art in Section III above, which is produced herewith.

5. ’957 Patent

All asserted claims of the ’957 Patent are directed to patent-ineligible abstract ideas and fail to recite any inventive concept beyond the abstract realm.

Pursuant to Paragraph (a)(1) of the Court’s Standing Order, Defendant provides the following chart identifying each exception to eligibility to which each challenged claim is directed and the factual and legal basis therefor. The chart below further identifies whether one or more of the challenged claims are representative of any other challenged claims.

’957 Challenged Claims	Exception to Eligibility: Abstract Idea
7, 8 **Representative Claim:** 7	The challenged claims of the ’957 Patent are directed to an abstract idea—e.g., comparing information and scoring comparisons to determine a user’s intent. Representative claim 7 recites functional, result-oriented steps for (1) generating a “context stack” based on prior utterances, (2) receiving a natural language utterance (i.e., speech), (3) determining words in the utterance using speech recognition, and (4) identifying context entries that correspond to the words by comparing, generating rank scores, identifying, and determining an associated request or command. Apart from generically receiving and processing data, the claims merely

’957 Challenged Claims	Exception to Eligibility: Abstract Idea
	recite steps for comparing information and scoring comparisons to determine a user’s intent. This is an ineligible abstract idea. Courts have repeatedly invalidated analogous claims for processing and transcribing information in speech as well as input in other modalities. *See, e.g.*, *Ginegar LLC*, 634 F. Supp. 3d at 772–73 (invalidating claims directed to “the abstract idea of combining different message types in a single transcript” that recited “multi-modal transcript unification logic”); *IPA Techs.*, 307 F. Supp. 3d at 371 (invalidating claims for a “multi-modal feedback” system that “essentially requires gathering additional data in a non-spoken modality and using the data to modify the initial navigation query . . . from a spoken request”). Likewise, courts have repeatedly invalidated claims directed to “familiar concepts of ranking and selecting” the highest-ranked or scored option, particularly where (as here) “[t]he claim does not specify any particular metric or method for ranking.” *Cisco*, 813 F. App’x at 497–98 (invalidating claims for “ranking stations based on antenna performance characteristics and selecting the station with the highest rank”); *see also, e.g.*, *Free Stream Media*, 996 F.3d at 1361–62 (invalidating claims “directed to: (1) gathering information about television users’ viewing habits; (2) matching the information with other content . . . based on relevancy to the television viewer; and (3) sending that content to a second device”); *Semantic Search Techs.*, 425 F. Supp. 3d at 776 (invalidating claims for “collecting information from the user,” “maintaining and storing potentially related information,” and “ranking information based on potential relevancy (scoring)”); *AudienceScience*, 2024 WL 1975473, at *6 (invalidating claims for “selecting [a] subject in accordance with a selection weighting for each subject based upon a performance score”); *Relevant Holdings*, 2021 WL 6103350, at *4 (invalidating claims for “ranking categories . . . based on applying a multivariate mathematical formula to generate a score”); *S.I.SV.EL.*, 2019 WL 2491898, at *6 (invalidating claims for “ranking attributes based on the highest factor”). Similarly, courts have repeatedly invalidated claims for “using computers to predict the intent of [users],” which “is insufficient to render [an] idea non-abstract.” *USC IP*, 2023 WL 5606977, at *3; *see also Trinity Info*, 72 F.4th at 1362 (invalidating claims that received and compared information to determine the “likelihood of [a] match”); *Free Stream Media*, 996 F.3d at 1361–62 (invalidating claims for “matching [received] information with other content . . . based on relevancy”).

’957 Challenged Claims	Exception to Eligibility: Abstract Idea
	Furthermore, comparing information and scoring comparisons to determine a user’s intent is an abstract idea because it constitutes a longstanding and fundamental human practice, dating back to the earliest examples of human translation and interpretation. *See Intell. Ventures*, 838 F.3d at 1313. Interpreting natural-language requests is equally fundamental and longstanding, and humans routinely do this in their minds. The challenged claims are also abstract because, “with the exception of generic computer-implemented steps,” they can be “performed by a human, mentally or with pen and paper.” *Id*. at 1318. A human could perform the same steps to generate a context stack based on prior interactions (e.g., a help line or customer service department generating guidelines or answers to common queries), receiving and understanding a spoken question or request, and identifying the appropriate prior context entry by comparing words in the question or request and then determining the most relevant entry. *See Elec. Power Grp.*, 830 F.3d at 1353 (holding that claims for “collecting information, analyzing it, and displaying certain results” are directed to mental processes). Indeed, the specification admits that the claimed invention simulates human activity. *See* ’957 patent at 5:44–46 (“the system may simulate some aspects of a human ‘personality’”), 8:10–14 (invention will “simulate the behavioral characteristics of real humans” and “also randomizes aspects of responses, just as a real human would do”), 8:49–51 (“This process may simulate the manner in which a human would address multiple questions from various sources.”). In addition, the claims are directed to an abstract idea because they are entirely functional and result-oriented—e.g., they do not recite *how* a context stack is “generat[ed],” *how* words in a natural-language utterance are “determin[ed],” *how* context entries are “identif[ied]” or “compar[ed],” *how* rank scores are “generat[ed],” or *how* a command or request is “determin[ed].” Because the claims recite “a desired function or outcome, without providing any limiting detail that confines the claim to a particular solution to an identified problem,” the “functional nature of the claim confirms that it is directed to an abstract idea.” *Affinity Labs*, 838 F.3d at 1269.

Pursuant to Paragraphs (a)(2) and (3) of the Court’s Standing Order, the following chart includes a description of the industry, at the relevant time, in which the asserted claims are alleged to be well understood, routine, and conventional, and the factual and legal basis therefor; and a description of how each element of each asserted claim, both individually and in combination with the other elements of that claim, was: (i) well understood; (ii) routine; and (iii) conventional, in the relevant industry at the relevant time, and the legal and factual basis therefor; and any other factual or legal basis for how the claims are otherwise ineligible for patent protection. In providing contentions that elements of the claims were well understood, routine, and conventional, Defendant does not concede that any claim elements lie beyond the abstract realm. Defendant contends that all elements of the asserted claims are abstract, such that they cannot provide an inventive concept as a matter of law. *See, e.g.*, *SAP*, 898 F.3d at 1168; *BSG*, 899 F.3d at 1290.

’957 Patent Claim	**Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional**
7. A computer-implemented method of processing a natural language utterance, the method comprising: generating a context stack comprising context information that corresponds to a plurality of prior utterances, wherein the context stack includes a plurality of context entries; receiving, by one or more computer processors, the natural language utterance, wherein the natural language utterance is associated with a command or is associated with a request; determining one or more words of the natural language utterance by performing speech recognition on the natural language utterance; identifying, from among the plurality of context entries, one or more context entries that correspond to the one or more words, wherein the context information includes the one or more context	As of the priority date, as shown in Sections IV.A, IV.B.1, and IV.B.6 and in the Ex. E charts, the relevant industry of processing and interpreting natural-language inputs, commands, and requests was mature and well-developed. The specification of the ’957 patent admits that “[s]peech recognition has steadily improved in accuracy and today is successfully used in a wide range of applications,” and “[n]atural language processing has been applied to the parsing of speech queries.” ’957 patent at 2:2–6. The specification admits that a “conventional microphone” may receive a natural-language utterance. *Id*. at 32:55. Apart from generically and functionally described “computer processors,” the claims do not recite any hardware, and the claims do not purport to require any specialized hardware or software. Instead, the specification makes clear that the alleged invention can be carried out using preexisting, conventional computers. *See, e.g.*, ’957 patent at 3:55–58 (“the system may be deployed in a network of devices that share a common base of agents, data, information, user profiles, histories or other components”), 5:66–67 (“The invention may be applied as a user interface to telematics systems in a wide variety of environments.”), 24:1–11 (“The telematic natural language interface may be deployed as part of, or a peripheral to a TCU or other mobile devices 36, as part of a mobile device interfaced to vehicle computers and other mobile system[s] . . . . Alternatively, the components of the interactive natural language telematic interface may be distributed in any suitable manner between these multiple computing platforms.”). As shown by the disclosures of the prior art charted as part of Exhibit E, which are incorporated by reference, each and every

’957 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
entries, wherein identifying the one or more context entries comprises: comparing the plurality of context entries to the one or more words; generating, based on the comparison, one or more rank scores for individual context entries of the plurality of context entries; and identifying, based on the one or more rank scores, the one or more context entries from among the plurality of context entries; and determining based on the determined one or more words and the context information, the command or the request associated with the natural language utterance.	limitation of the challenged claims was well understood, routine, and conventional in the industry. In addition to the individual elements, the ordered combination of recited elements as a whole was equally well understood, routine, and conventional. Indeed, the combination of elements is exactly what a person of skill in the art would expect, with no inventive concept or technical improvement. *See Two-Way Media*, 874 F.3d at 1339 (holding there was “no inventive concept in the ordered combination” where “[t]he claim uses a conventional ordering of steps—first processing the data, then routing it, controlling it, and monitoring its reception—with conventional technology to achieve its desired result,” which does “not contain an inventive concept”). Notably, the Amended Complaint states only purely conclusory allegations that the claims of the ’957 patent “are directed to patentable subject matter,” “directed to innovations that implement and improve a voice recognition system and natural language processing,” “improve on the processing of a natural language utterance by a user,” and “provide specific concrete solutions to the problem of speech recognition in existing systems,” which are identical for all asserted patents. Dkt. 22 ¶ 202; *see also id.* ¶ 57. These conclusory allegations are entitled to no weight. *See Simio*, 983 F.3d at 1365 (disregarding “conclusory statements when evaluating a complaint” for allegations relevant to 35 U.S.C. § 101). Regardless, each limitation of the challenged claims is entirely in the abstract realm because it either restates the abstract idea under *Alice* step one or merely recites purely functional results, without specifying how the recited results are achieved, such that any alleged unconventionality is irrelevant as a matter of law. *See, e.g.*, *Affinity Labs*, 838 F.3d at 1269; *SAP*, 898 F.3d at 1168; *BSG*, 899 F.3d at 1290. Further, although any inventive concept would need to be recited in the claims, and not merely in the specification, even the specification lacks any detail on how the claimed functions could be achieved. Instead, the specification assumes any algorithms for carrying out the claimed functions are well-known to ordinarily skilled artisans. *See, e.g.*, ’957 patent at 26:11–13 (“Agents 106 may include a collection of grammars, criteria handlers, and algorithms that are accessed to respond to a set of requests and/or commands.”). Moreover, because the challenged claims fail to provide sufficient limiting detail as to how the claimed functions are allegedly performed, the claims are unduly preemptive in scope, which confirms they are patent-ineligible. *See Athena*, 915 F.3d

’957 Patent Claim	Description of Relevant Industry and How Elements Were Well Understood, Routine, and Conventional
	at 752 (“Preemption is sufficient to render a claim ineligible under § 101, but it is not necessary.”).
8. The method of claim 7, further comprising: providing a prompt regarding the command or request, wherein the prompt is a prompt for additional information or a prompt for confirmation; and receiving, in response to providing the prompt, a non-speech input, wherein the command or request is determined further based on the non-speech input.	See claim 7 Providing a prompt regarding the command or request, wherein the prompt is a prompt for additional information or a prompt for confirmation; and receiving, in response to providing the prompt, a non-speech input, wherein the command or request is determined further based on the non-speech input, was well known, routine, and conventional. *See* Ex. E charts. Regardless, these additional functions are themselves abstract. This claim element merely duplicates functional language in the independent claim (requesting and receiving additional input to further determine a command or request), which does not move the claims beyond the abstract realm. The idea of providing a prompt and receiving a response to clarify a command or request is itself an abstract idea and is no different from how humans seek to clarify commands or requests. *See also Trinity Info Media*, 72 F.4th at 1362 (invalidating claims with iterative steps for “providing a polling question” and “receiving and storing an answer” in process of determining likely matches for users). Moreover, the specification admits that receiving non-speech input is conventional, acknowledging “[c]onventional computer interfaces [that] use some combination of keyboards, keypads, point and click techniques and touch screen displays.” ’957 patent at 1:35–38.

Pursuant to Paragraph (b) of the Court’s Standing Order, Defendant relies on the identification of prior art in Section III above, which is produced herewith.

VII. DOCUMENT PRODUCTION ACCOMPANYING INVALIDITY AND SUBJECT MATTER ELIGIBILITY CONTENTIONS

Defendant will produce or make available for inspection documents required by Patent L.R. 3-4 according to the parties’ agreed-upon schedule. These disclosures are based on Defendant’s current understanding of Plaintiff’s infringement allegations. This disclosure is made without the benefit of discovery. Defendant reserves the right to amend or supplement these disclosures and documents as this case proceeds and its investigation continues. Defendant further reserves the right to supplement these disclosures following the receipt of more fulsome and rulescompliant infringement contentions from Plaintiff, or as appropriate in response to the Court's claim construction or determination of other issues.

Contemporaneously with the service of these invalidity contentions Bank of America is producing documents sufficient to show the operation of any aspects or elements of the Accused Product identified by Plaintiff in its infringement contentions, and will make source code available for inspection pursuant to the provisions of the Protective Order. (Dkt. 49).

A. A copy or sample of the prior art identified pursuant to Patent L.R. 3-3(a) which does not appear in the file history of the patent(s) at issue.

Defendant is producing a copy of the prior art identified herein. *See* BOFA0025301 - BOFA0041222 (produced concurrently herewith).

B. Documents supporting Defendant's Subject Matter Ineligibility Contentions.

Pursuant to the Court's Standing Order Regarding Subject Matter Eligibility Contentions Applicable to All Patent Infringement Cases Assigned to Chief District Judge Rodney Gilstrap, Defendant is producing the materials on which Defendant seeks to rely for Defendant's contention that certain Asserted Claims fail to satisfy the requirements of 35 U.S.C. § 101 due to their failure to claim patentable subject matter. *See* Sections III.A-C, IV-VI, VII.1-2; *see* BOFA0025301 - BOFA0041222 (produced concurrently herewith).

Respectfully submitted,

Dated: September 12, 2024

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who have appeared in this case are being served with a copy of the foregoing via electronic mail on September 12, 2024.

/s/ Kelly C. Hunsaker
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