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

VB ASSETS, LLC, Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD. and SAMSUNG ELECTRONICS AMERICA, INC, Defendants.	C.A. No. 2:24-cv-828 **JURY TRIAL DEMANDED**

SAMSUNG ELECTRONICS CO., LTD. AND SAMSUNG ELECTRONICS AMERICA, INC.'S INVALIDITY AND SUBJECT MATTER ELIGIBILITY CONTENTIONS

Pursuant to Patent Rules 3-3 and 3-4, and the First Amended Docket Control Order (ECF No. 42), Defendants Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively "Samsung" or "Defendants") provide their Invalidity Contentions and accompanying document production with respect to the claims identified by Plaintiff VB Assets, LLC ("VoiceBox" or "Plaintiff") in its Patent Rule 3-1 Disclosures. Samsung's Invalidity Contentions including the accompanying claim charts concerning U.S. Patent Nos. 8,073,681 ("'681 patent"); 10,510,341 ("'341 patent"); 10,755,699 ("'699 patent"); 8,515,765 ("'765 patent"); 7,818,176 ("'176 patent"); and 8,886,536 ("'536 patent") (collectively, "the Asserted Patents").

I. INTRODUCTION

Plaintiff has asserted the following claims of the Asserted Patents against Samsung in this case (collectively, the "Asserted Claims").

Patent	Asserted Claims
'681 Patent	1-36
'341 Patent	1-18

’699 Patent	1-22
’765 Patent	1-14
’176 Patent	1-52
’536 Patent	1-55

Plaintiff asserts that the Asserted Claims of the ’681,’341,’699, and ’765 patents are entitled to at least the priority date of October 16, 2006, and the Asserted Claims of the ’176 and ’536 patents are entitled to at least the priority date of February 6, 2007. By identifying Plaintiff’s alleged priority dates for the Asserted Claims, Samsung does not concede that Plaintiff’s claims of priority are correct.

As further detailed in and supported by these Invalidity Contentions, the concepts disclosed and claimed in each of the Asserted Patents are not new, and had been disclosed and actively practiced by others prior to the claimed invention dates. The prior art includes various documents, products, patents, and inventions that separately and together render the Asserted Claims invalid. In addition, as described in more detail below, the claims of the Asserted Patents are invalid under pre-AIA 35 U.S.C. §§ 101 and 112. Samsung reserves the right to prove the invalidity of the Asserted Claims on bases other than those required to be disclosed in these disclosures pursuant to P.R. 3-3.

II. AMENDMENT/SUPPLEMENTATION

Samsung’s Invalidity Contentions address the Asserted Claims identified in Plaintiff’s Disclosure of Asserted Claims and Infringement Contentions. If the Court later permits Plaintiff to amend its infringement contentions or assert additional claims, Samsung reserves the right to modify, amend, or supplement these Invalidity Contentions as necessary—for example, to address the invalidity or ineligibility of any newly asserted claims.

These Invalidity Contentions are based on Samsung’s current understanding of the Asserted Claims and Plaintiff’s apparent interpretation of their scope, as reflected, for example, in

Plaintiff's Disclosure of Asserted Claims and Infringement Contentions. Because the Court has not yet issued a *Markman* Order, nothing in these Contentions should be viewed as Samsung agreeing to the proper scope or construction of any asserted claim or claim term.

By identifying prior art that allegedly anticipates or renders the Asserted Claims obvious, Samsung does not concede that the claims are definite, properly supported by the patent specifications, or enabled. Samsung expressly reserves the right to challenge any claim construction advanced by Plaintiff and to present its own claim construction positions as allowed by the Court.

Samsung reserves the right to revise these Invalidity Contentions based on the Court's construction of any term or phrase in the Asserted Claims, new information obtained during discovery, additional infringement theories raised by Plaintiff during fact or expert discovery, findings related to the priority dates of the Asserted Claims, or positions taken by Plaintiff, its fact witnesses, or expert(s) regarding claim construction, infringement, or invalidity—subject to the Court's approval.

Plaintiff has defined a person of ordinary skill in the art (POSITA) at the time of the effective filing dates as someone with "at least a bachelor's degree in computer science, computer engineering, electrical engineering, engineering, computational linguistics, or a related field; two years of experience with automatic speech recognition, natural language understanding, engineering, or computational linguistics; and/or equivalent education, research experience, or knowledge." (Plaintiff's Response to Interrogatory No. 8). Based on this definition, Samsung has framed its Invalidity Contentions accordingly. However, to be clear, Samsung maintains that the Asserted Claims are invalid for the reasons stated in its Invalidity Contentions regardless of the specific definition of the level of ordinary skill in the art applicable to the Asserted Patents.

Because discovery has only recently begun, Samsung anticipates that additional prior art and invalidity bases may be found. Samsung's investigation and analysis of the prior art are ongoing, and it reserves the right to supplement, amend, or revise the information provided as it conducts further investigation, including identifying and charting new references. Samsung may rely on later-discovered sources of information, such as witness testimony, additional discovery, and newly identified prior art references, systems, related documentation, or software and hardware code, including materials obtained from third parties after the service date of these Invalidity Contentions.

Samsung may also rely on statements by the inventors regarding the scope of the prior art relevant to the Asserted Claims, the prosecution histories of the Asserted Patents and related patents or applications, and any filings or evidence submitted by Plaintiff in this case or in related litigation. Additionally, given the likely third-party discovery, Samsung reserves the right to present additional prior art under 35 U.S.C. §§ 102 and/or 103, including contentions of invalidity based on such prior art discovered during the course of discovery. For example, Samsung expects to issue subpoenas to third parties with knowledge, documents, or evidence concerning the invalidity of one or more of the Asserted Claims, and Samsung expressly reserves the right to revise or supplement existing contentions based on any discovery received from third parties.

Additional prior art—whether currently known or unknown to Samsung—may become relevant as this case progresses. At this time, Samsung does not know the extent to which Plaintiff will argue that certain limitations of the Asserted Claims are not disclosed in the prior art cited in these Invalidity Contentions. Therefore, Samsung reserves the right to identify and rely on other references that disclose any such allegedly missing limitations in the claimed method, device, or system.

The references identified in these Invalidity Contentions, including the attached claim charts, may explicitly or inherently disclose the elements of the Asserted Claims. They may also render those elements, alone or in combination, obvious to a person of ordinary skill in the art, even without an explicit or inherent disclosure. Additionally, these references may be used to demonstrate the state of the art during the relevant time period.

The references cited in these Invalidity Contentions, as well as those listed in the "References Cited" section of the Asserted Patents and cited within their body, may illustrate, but not limit, the state of the art to which the Asserted Patents pertain (i.e., prior to the alleged inventions of the Asserted Claims).

In addition to the positions and prior art identified in these Invalidity Contentions (including the accompanying claim charts), Samsung also incorporates by reference all Invalidity Contentions, prior art,[1] 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 the Asserted Patents, disclosed at any time. This includes, without limitation, disclosures in previous or related litigation, in United States Patent & Trademark Office ("USPTO") proceedings, by Plaintiff, by any other parties accused of patent infringement by Plaintiff, or by the named inventors or any individuals associated with the prosecution and/or any form of post-grant review or reexamination of the Asserted Patents.

Plaintiff has an ongoing duty to produce all relevant documents from any other litigation (including inter partes review and/or reexamination proceedings) involving the Asserted Patents,

[1] Prior art appearing in the file history of the Asserted Patents is not required to be separately produced by Samsung under P.R. 3-4(b).

any patent related to the Asserted Patents, or any other patent allegedly assigned to Plaintiff claiming priority to the Asserted Patents ("Other Proceedings"). This includes, but is not limited to, prior art, invalidity contentions, expert reports on invalidity, and any other relevant materials. Samsung also reserves the right to update these Invalidity Contentions in response to any rebuttal evidence disclosed by Plaintiff or as necessary based on the circumstances.

III. P.R. 3-3(A) – IDENTIFICATION OF PRIOR ART

Pursuant to P.R. 3-3(a), and subject to Samsung's reservation of rights, Samsung identifies the following prior art that anticipates and/or renders obvious one or more Asserted Claims, as detailed in Appendices A-1–A-33, B-1–B-37, C-1–C-35, D-1–D-5, E-1–E-32, and F-1–F-32; IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-00869; and elsewhere in these Invalidity Contentions. Below are tables identifying individual items of prior art. The prior art references, systems, and products listed below and in the accompanying claim charts may be relied upon for certain limitations, state of the art, and background of the art; as evidence of the level of skill in the art at the time(s) of the filing of the Asserted Patents; or in support of assertions that it is proper to combine certain prior art references in certain ways.

Samsung also incorporates by reference each and every prior art reference of record in the prosecution of the Asserted Patents, and patent and patent applications related to the Asserted Patents, as well as the prior art referred to in the specification of the Asserted Patents. In these Invalidity Contentions, Samsung has identified each item of prior art, based on currently available information, including:

1. each patent, constituting prior art under 35 U.S.C. §§ 102(a)(1) and/or (a)(2), by its patent number, country of origin, and date of issue;
2. each non-patent publication, constituting prior art under 35 U.S.C. §§ 102(a)(1) and/or (a)(2), by its title, date of publication, and, where feasible, author and publisher;

3. sales or public disclosures, constituting prior art under 35 U.S.C. § 102(a)(1), by the item offered for sale or publicly used or known, the date the offer or use took place or the information became known, and 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; and
4. prior art references showing that the claimed invention was otherwise available to the public under 35 U.S.C. § 102(a)(1), by specifying the form and nature of the reference, the manner in which the reference was made public, and the date on which the reference was made public.

Samsung's identification of patents and publications as prior art herein and in the attached invalidity claim charts includes the publications themselves as well as the use of the products and systems described therein. Samsung's investigation continues, but information available to date indicates that such products and systems were in public use, on sale, and/or otherwise available to the public more than one year before the effective filing dates of the Asserted Patents. Upon information and belief, these prior art products and systems and their associated references anticipate and/or render obvious one or more of the Asserted Claims of the Asserted Patents.

A. Prior Art Patents, Patent Applications, and Publications

1. Table 1: Prior Art Patents and Patent Application Publications

Patent Number	Country of Origin	Filing or Priority Date	Date of Issue or Publication	Short Cite
U.S. Patent App. Pub. No. 2002/087525	United States	April 2, 2001	July 4, 2002	"Abbott"
U.S. Patent App. Pub. No. 2004/0006478	United States	January 17, 2003	January 8, 2004	"Alpdemir"
European Patent No. EP 1,215,657	European	November 30, 2001	June 19, 2002	"Alshawi"
Japan Patent No. JP2005-352761	Japan	June 10, 2004	December 22, 2005	"Amakasu"

Patent Number	Country of Origin	Filing or Priority Date	Date of Issue or Publication	Short Cite
U.S. Patent App. Pub. No. 2006/0122840	United States	December 7, 2004	June 8, 2006	"Anderson I"
U.S. Patent No. 7,170,993	United States	December 18, 2001	January 30, 2007	"Anderson II"
U.S. Patent App. Pub. No. 2004/0249636	United States	June 4, 2003	December 9, 2004	"Applebaum"
International Patent App. Pub. No. WO 02/073331	WO	February 20, 2002	September 19, 2002	"Aretoulaki"
U.S. Patent App. Pub. No. 2007/0203736	United States	February 27, 2007	August 30, 2007	"Ashton"
U.S. Patent App. Pub. No. 2010/0063880	United States	March 13, 2009	March 11, 2010	"Atsmon"
U.S. Patent 5,860,059	United States	March 5, 1997	January 12, 1999	"Aust"
U.S. Patent App. Pub. No. 2003/0139924	United States	December 29, 2001	July 24, 2003	"Balasuriya"
U.S. Patent App. Pub. No. 2008/0091406	United States	October 16, 2006	April 17, 2008	"Baldwin"
U.S. Patent App. Pub. No. 2005/0135571	United States	December 19, 2003	June 23, 2005	"Bangalore I"
U.S. Patent No. 8,949,132	United States	March 25, 2014	February 3, 2015	"Bangalore II"
US Patent No. 7,826,635	United States	June 4, 2003	November 2, 2010	"Barbara II"
U.S. Patent App. Pub. No. 2004/0101198	United States	June 4, 2003	May 27, 2004	"Barbara"
U.S. Patent App. Pub. No. 2007/0239531	United States	March 30, 2006	October 11, 2007	"Beaufays"
U.S. Patent No. 6,801,994	United States	December 20, 2000	October 5, 2004	"Beckert I"
U.S. Patent App. Pub. No. 2010/0049619	United States	September 12, 2003	March 17, 2005	"Beckert II"
U.S. Patent No. 8,214,214	United States	October 14, 2009	July 3, 2012	"Bennett"
U.S. Patent No. 5,488,652	United States	April 14, 1994	January 30, 1996	"Bielby"
U.S. Patent App. Pub. No. 2008/0104037	United States	December 18, 2007	May 1, 2008	"Bierner"
U.S. Patent App. 60/883,279	United States	January 3, 2007		"Bierner II"
U.S. Patent App. Pub. No. 2002/0026456	United States	August 24, 2001	February 28, 2002	"Bradford"

Patent Number	Country of Origin	Filing or Priority Date	Date of Issue or Publication	Short Cite
U.S. Patent App. Pub. No. 2005/0132262	United States	December 15, 2003	June 16, 2005	"Bushey"
U.S. Patent No. 6,219,645	United States	December 2, 1999	April 17, 2001	"Byers"
U.S. Patent No. 6,829,603	United States	February 2, 2000	December 7, 2004	"Chai"
U.S. Patent App. Pub. No. 2003/0028367	United States	June 15, 2001	February 6, 2003	"Chalabi"
U.S. Patent App. Pub. No. 2006/0236343	United States	April 14, 2005	October 19, 2006	"Chang"
U.S. Patent App. Pub. No. 2006/0047497	United States	August 31, 2004	March 2, 2006	"Chen"
U.S. Patent App. Pub. No. 2005/0234779	United States	May 18, 2005	October 20, 2005	"Chiu"
U.S. Patent No. 8,509,403	United States	April 12, 2010	August 13, 2010	"Chiu II"
U.S. Patent No. 9,218,810	United States	April 15, 2014	December 22, 2015	"Chotimongkol"
U.S. Patent 5,805,772	United States	December 30, 1994	September 8, 1998	"Chou"
U.S. Patent No. 7,729,916	United States	October 23, 2006	June 1, 2010	"Coffman II"
International Patent App. Pub. No. WO 00/20962	WO	January 10, 1999	April 13, 2000	"Coffman III"
U.S. Patent No. 6,839,896 B2	United States	June 29, 2001	January 4, 2005	"Coffman"
U.S. Patent No. 6,859,776	United States	October 4, 1999	February 22, 2005	"Cohen"
U.S. Patent No. 7,774,333	United States	August 20, 2004	August 10, 2010	"Colledge II"
U.S. Patent App. Pub. No. 2005/0080775	Canada	August 20, 2004	April 14, 2005	"Colledge"
U.S. Patent No. 6,757,362	United States	March 6, 2000	June 29, 2004	"Cooper"
U.S. Patent App. Pub. No. 2007/0038436	United States	August 10, 2005	February 15, 2007	"Cristo"
U.S. Patent No. 8,332,218	United States	June 13, 2006	December 11, 2012	"Cross"
European Patent No. EP 1,444,687	European	October 25, 2002	August 11, 2004	"Danieli"
U.S. Patent No. 5,696,965	United States	November 3, 1994	December 9, 1997	"Dedrick"

Patent Number	Country of Origin	Filing or Priority Date	Date of Issue or Publication	Short Cite
U.S. Patent App. Pub. No. 2005/0246174	United States	June 16, 2005	November 3, 2005	"DeGolia"
U.S. Patent No. 6,420,975	United States	December 17, 1999	July 16, 2002	"DeLine"
U.S. Patent App. Pub. No. 2003/0144846	United States	January 31, 2002	July 31, 2003	"Denenberg"
U.S. Patent App. Pub. No. 2003/0078779	United States	January 4, 2001	April 24, 2003	"Desai"
U.S. Patent App. Pub. No. 2007/0047719	United States	September 1, 2006	March 1, 2007	"Dhawan"
U.S. Patent App. Pub. No. 2010/0158218	United States	March 4, 2010	June 24, 2010	"Dhawan II"
U.S. Patent No. 7,620,549	United States	August 10, 2005	November 17, 2009	"Di Cristo"
U.S. Patent App. Pub. No. 2004/0006475	United States	December 19, 2002	January 8, 2004	"Ehlen"
U.S. Patent Application Pub. No. 2005/0060158	United States	September 12, 2003	March 17, 2005	"Endo"
U.S. Patent App. Pub. No. 2002/0123891	United States	March 1, 2001	September 5, 2002	"Epstein"
U.S. Patent No. 6,321,196	United States	July 2, 1999	November 20, 2001	"Franceschi"
U.S. Patent App. Pub. No. 2010/0125458	United States	July 13, 2006	May 20, 2010	"Franco"
U.S. Patent App. Pub. No. 2001/0049688	United States	March 6, 2001	December 6, 2001	"Fratkina"
U.S. Patent No. 5,903,864A	United States	November 13, 1995	May 11, 1999	"Gadbois"
U.S. Patent App. Pub. No. 2005/0033582 A1	United States	August 27, 2003	February 10, 2005	"Gadd"
U.S. Patent App. No. 60/883,279	United States	January 3, 2007		"Gann"
U.S. Patent No. 6,615,175	United States	June 10, 1999	September 2, 2003	"Gazdzinski"
U.S. Patent No. 5,561,668	United States	July 6, 1995	October 1, 1996	"Genter"
U.S. Patent No. 6,937,977	United States	October 5, 1999	August 30, 2005	"Gerson"
U.S. Patent No. 8,090,082	United States	January 22, 2007	January 3, 2012	"Gilbert"
U.S. Patent No. 6,751,591	United States	January 22, 2001	June 15, 2004	"Gorin"

Patent Number	Country of Origin	Filing or Priority Date	Date of Issue or Publication	Short Cite
U.S. Patent No. 6,088,671	United States	June 17, 1998	July 11, 2000	"Gould"
U.S. Patent No. 5,640,490	United States	November 14, 1994	June 17, 1997	"Hansen"
U.S. Patent No. 8,078,502	United States	February 1, 2007	December 13, 2011	"Hao"
European Patent No. 2,299,398	European	September 11, 1998	March 23, 2011	"Hartman"
U.S. Patent App. Pub. No. 2004/0215443	United States	July 27, 2001	October 28, 2004	"Hatton"
U.S. Patent App. Pub. No. 2006/0080107	United States	September 2, 2005	April 13, 2006	"Hill"
U.S. Patent No. 7,620,551	United States	July 20, 2006	November 17, 2009	"Ho II"
U.S. Patent No. 7,856,358	United States	October 26, 2009	December 21, 2010	"Ho"
U.S. Patent No. 6,144,989	United States	October 30, 1998	November 7, 2000	"Hodjat I"
U.S. Patent No. 7,558,731	United States	March 30, 2005	July 7, 2009	"Hodjat II"
U.S. Patent No. 7,236,922	United States	March 8, 2005	June 26, 2007	"Honda"
Japan Patent No. JP2001-242889	Japan	February 29, 2000	September 7, 2001	"Horiuchi"
U.S. Patent App. Pub. No. 2006/0293893	United States	June 27, 2005	December 28, 2006	"Horvitz I"
U.S. Patent No. 7,409,335	United States	June 29, 2001	August 5, 2008	"Horvitz II"
U.S. Patent No. 8,775,459	United States	January 7, 2005	July 8, 2014	"Houck"
U.S. Patent No. 6,513,006	United States	June 6, 2001	January 28, 2003	"Howard"
U.S. Patent App. Pub. No. 2006/0212815	United States	March 16, 2005	September 21, 2006	"Huerta"
Japan Patent App. No. JPH11-3348	Japan	June 11, 1997	January 6, 1999	"Ihara"
Japan Patent No. JP2916461	Japan	March 20, 1998	July 5, 1999	"Iwamoto"
U.S. Patent No. 6,804,330	United States	January 4, 2002	October 12, 2004	"Jones '330"
U.S. Patent App. Pub. No. 2007/0174258	United States	December 29, 2006	July 26, 2007	"Jones"

Patent Number	Country of Origin	Filing or Priority Date	Date of Issue or Publication	Short Cite
U.S. Patent No. 6,173,250	United States	June 3, 1998	January 9, 2001	"Jong"
U.S. Patent No. 7,036,128	United States	August 9, 2000	April 25, 2006	"Julia"
Japan Patent App. No. JPH08-248980	Japan	March 6, 1995	September 27, 1996	"Kamei"
U.S. Patent No. 5,897,616	United States	June 11, 1997	April 27, 1999	"Kanevsky I"
U.S. Patent App. Pub. No. 2007/0055529	United States	August 31, 2005	March 8, 2007	"Kanevsky II"
U.S. Patent App. Pub. No. 2005/0015256	United States	May 28, 2004	January 20, 2005	"Kargman"
U.S. Patent App. Pub. No. 2002/0065651	United States	September 18, 2001	May 30, 2002	"Kellner"
U.S. Patent App. Pub. No. 2004/0193420 A1	United States	July 15, 2003	September 30, 2004	"Kennewick"
U.S. Patent App. Pub. No. 2004/0044516	United States	June 3, 2003	March 4, 2004	"Kennewick II"
U.S. Patent App. Pub. No. 2009/0150156	United States	February 11, 2007	June 11, 2009	"Kennewick-III"
U.S. Patent App. Pub. No. 2009/0299745	United States	May 27, 2008	December 3, 2009	"Kennewick-IV"
U.S. Patent App. Pub. No. 2010/0145700	United States	February 12, 2010	June 10, 2010	"Kennewick-V"
Japan Patent No. JP2006-244126	Japan	March 3, 2005	September 14, 2006	"Kii"
European Patent No. EP 1,349,145	European	March 28, 2003	October 31, 2007	"Kim"
Japan Patent No. JP2004046669A	Japan	July 15, 2002	February 12, 2004	"Kitamura"
U.S. Patent No. 6,658,388	United States	September 10, 1999	December 2, 2003	"Kleindienst"
U.S. Patent No. 6,157,912	United States	March 2, 1998	December 5, 2000	"Kneser"
Japan Patent No. JP2004-029147	Japan	June 21, 2002	January 29, 2004	"Ko"
U.S. Patent No. 8,005,680	United States	November 21, 2006	August 23, 2011	"Kommer"
European Patent No. EP1,385,148	European	July 27, 2002	January 28, 2004	"Kommer II"
International Patent App. Pub. No. WO 01/50453 A2	WO	January 4, 2001	July 12, 2001	"Kovatch"

Patent Number	Country of Origin	Filing or Priority Date	Date of Issue or Publication	Short Cite
Korean Patent KR 2006-0018238	Korean	June 1, 2004	October 7, 2008	"KR '238"
U.S. Patent No. 6,907,397	United States	September 16, 2002	June 14, 2005	"Kryze"
Japan Patent No. JP2005-004644	Japan	June 13, 2003	January 6, 2005	"Kuromiya"
U.S. Patent App. Pub. No. 2006/0184370	United States	February 7, 2006	August 17, 2006	"Kwak"
U.S. Patent App. Pub. No. 2007/0112630	United States	November 7, 2006	May 17, 2007	"Lau"
U.S. Patent App. Pub. No. 2005/0288935 A1	Taiwan	June 28, 2005	December 29, 2005	"Lee"
U.S. Patent App. No. 2002/0087315	United States	May 23, 2001	July 4, 2002	"Lee II"
U.S. Patent No. 8,301,450	United States	October 30, 2006	October 30, 2012	"Lee III"
U.S. Patent No. 8,719,005	United States	February 9, 2007	May 6, 2014	"Lee IV"
U.S. Patent App. Pub. No. 2006/0212897	United States	March 18, 2005	September 21, 2006	"Li"
U.S. Patent App. Pub. No. 2008/0109222	United States	November 4, 2006	May 8, 2008	"Liu"
U.S. Patent App. Pub. No. 2005/0283364	United States	June 1, 2005	December 22, 2005	"Longe"
International Publication No. WO 2000/46792	WO	February 4, 1999	August 10, 2000	"Lucente"
U.S. Patent No. 7,519,534	United States	October 30, 2003	April 14, 2009	"Maddux"
U.S. Patent Application Pub. No. 2004/0193426	United States	October 30, 2003	September 30, 2004	"Maddux II"
U.S. Patent No. 6,073,101	United States	January 28, 1997	June 6, 2000	"Maes '101"
International Patent App. Pub. No. WO 00/21075	WO	October 1, 1999	April 13, 2000	"Maes"
U.S. Patent App. Pub. No. 2007/0186165	United States	February 7, 2007	August 9, 2007	"Maislos I"
U.S. Patent App. Pub. No. 2008/0240379	United States	August 2, 2007	October 2, 2008	"Maislos II"
Japan Patent App. No. JPH11-175082	Japan	December 10, 1997	July 2, 1999	"Masai"
Japan Patent No. JP2004-334591	Japan	May 8, 2003	November 25, 2004	"Matsuda"

Patent Number	Country of Origin	Filing or Priority Date	Date of Issue or Publication	Short Cite
U.S. Patent App. Pub. No. 2007/0073544	United States	September 29, 2005	March 29, 2007	"Millett"
U.S. Patent App. Pub. No. 2003/0182123	Japan	September 4, 2001	September 25, 2003	"Mitsuyoshi"
U.S. Patent No. 5,748,841	United States	April 10, 1997	May 5, 1998	"Morin"
U.S. Patent App. Pub. No. 2008/0059186	United States	August 31, 2006	March 6, 2008	"Mowatt"
Japan Patent No. JP2000-284793	Japan	March 31, 1999	October 13, 2000	"Nakazawa"
U.S. Patent No. 5,321,608	Japan	November 27, 1991	June 14, 1994	"Namba"
U.S. Patent App. Pub. No. 2006/0009973	United States	July 6, 2004	January 12, 2006	"Nguyen"
U.S. Patent App. Pub. No. 2005/0278180	United States	May 20, 2005	December 15, 2005	"O'Neill"
U.S. Patent App. Pub. No. 2006/0020461	Japan	July 20, 2005	January 26, 2006	"Ogawa"
Japan Patent No. JP2000-244609	Japan	February 23, 1999	September 8, 2000	"Okamoto"
Japan Patent No. JP2003-271596	Japan	March 15, 2002	September 26, 2003	"Okuma"
U.S. Patent No. 6,397,188	United States	July 20, 1999	May 28, 2002	"Owasawa"
U.S. Patent No. 6,985,865	United States	September 26, 2001	January 10, 2006	"Packingham"
U.S. Patent No. 6,246,981	United States	November 25, 1998	June 12, 2001	"Papineni"
U.S. Patent No. 7,376,586	United States	October 22, 1999	May 20, 2008	"Partovi"
U.S. Patent No. 6,496,799	United States	June 13, 2000	December 17, 2002	"Pickering"
U.S. Patent App. Pub. No. 2005/0075880	United States	January 22, 2002	April 7, 2005	"Pickover"
U.S. Patent App. Pub. No. 2003/0120626	United States	December 20, 2001	June 26, 2003	"Piotrowski"
U.S. Patent App. Pub. No. 2002/0161587	United States	April 25, 2002	October 31, 2002	"Pitts, III"
U.S. Patent No. 6,430,531	United States	February 1, 2000	August 6, 2002	"Polish"
International Publication No. WO 2006/016307	WO	August 6, 2004	February 16, 2006	"Portele"

Patent Number	Country of Origin	Filing or Priority Date	Date of Issue or Publication	Short Cite
U.S. Patent No. 5,729,659	United States	June 6, 1995	March 17, 1998	"Potter"
U.S. Patent No. 7,555,475	United States	September 9, 2005	June 30, 2009	"Quiroga"
U.S. Patent No. 7,577,665	United States	January 19, 2006	August 18, 2009	"Ramer"
U.S. Patent App. Pub. No. 2007/0061363	United States	November 14, 2005	March 15, 2007	"Ramer II"
U.S. Patent No. 6,078,914	United States	December 9, 1996	June 20, 2000	"Redfern"
U.S. Patent No. 7,461,059	United States	June 23, 2005	December 2, 2008	"Richardson"
U.S. Patent No. 9,817,650	United States	April 27, 2012	November 14, 2017	"Ronning"
U.S. Patent App. No. 09/492846	United States	January 27, 2000		"Ronning II"
U.S. Patent App. Pub. No. 2002/0173960	United States	January 10, 2002	November 21, 2002	"Ross"
U.S. Patent App. No. 2002/0133354	United States	August 16, 2001	September 19, 2002	"Ross II"
U.S. Patent No. 7,496,514	United States	July 16, 2007	February 24, 2009	"Ross III"
U.S. Patent No. 6,950,793	United States	January 10, 2002	September 27, 2005	"Ross IV"
U.S. Patent App. Pub. No. 2006/0069546	United States	November 24, 2003	March 30, 2006	"Rosser"
U.S. Patent No. 7,477,909	United States	October 31, 2005	January 13, 2009	"Roth I"
WO 2007/053257	WO	September 28, 2006	May 10, 2007	"Roth II"
U.S. Patent App. Pub. No. 2003/0216919	United States	May 13, 2002	November 20, 2003	"Roushar"
U.S. Patent App. Pub. No. 2004/0215449	United States	June 30, 2003	October 28, 2004	"Roy"
International Patent App. Pub. No. WO 01/03006	WO	July 6, 2000	January 11, 2001	"Ryu"
European Patent No. 1333650	European	January 31, 2003	June 26, 2019	"Salmenkaita"
U.S. Patent App. Pub. No. 2006/0100851	United States	November 12, 2003	May 11, 2006	"Schonebeck"
US Patent No. 2002/0133347 A1	United States	August 3, 2001	September 19, 2002	"Schoneburg"

Patent Number	Country of Origin	Filing or Priority Date	Date of Issue or Publication	Short Cite
U.S. Patent No. 6,125,342	United States	November 18, 1997	September 26, 2000	"Selesky"
U.S. Patent App. Pub. No. 2008/0033994	United States	August 7, 2006	February 7, 2008	"Sharman"
U.S. Patent App. Pub. No. 2002/0091527	United States	January 8, 2001	July 11, 2002	"Shiau"
U.S. Patent App. Pub. No. 2001/0021909	United States	December 27, 2000	September 13, 2001	"Shimomura"
U.S. Patent No. 7,606,712	United States	June 28, 2001	October 20, 2009	"Smith"
U.S. Patent No. 7,552,054	United States	November 24, 2006	June 23, 2009	"Stifelman"
U.S. Patent App. Pub. No. 2002/0016710	United States	October 12, 2001	February 7, 2002	"Strong"
U.S. Patent No. 4,489,433	United States	March 8, 1984	December 18, 1984	"Suehiro"
U.S. Patent App. Pub. No. 2006/0106612	United States	December 22, 2005	May 18, 2006	"Surace"
International Publication No. WO2004/055781	WO	December 16, 2003	July 1, 2004	"Taschereau"
U.S. Patent App. Pub. No. 2005/0171926	United States	February 2, 2004	August 4, 2005	"Thione"
U.S. Patent App. Pub. No. 2004/0247092	United States	May 27, 2004	December 9, 2004	"Timmins"
U.S. Patent No. 7,231,343	United States	December 20, 2002	June 12, 2007	"Treadgold"
U.S. Patent No. 6,526,335 B1	United States	January 24, 2000	February 25, 2003	"Treyz"
U.S. Patent No. 5,915,001	United States	November 14, 1996	June 22, 1999	"Uppaluru"
U.S. Patent App. Pub. No. 2004/0083092	United States	August 8, 2003	April 29, 2004	"Valles"
U.S. Patent No. 6,327,566	United States	June 16, 1999	December 4, 2001	"Vanbuskirk"
U.S. Patent App. Pub. No. 2007/0067174 A1	United States	September 22, 2005	March 22, 2007	"Verma"
U.S. Patent No. 7,089,218	United States	June 16, 2005	August 8, 2006	"Visel"
U.S. Patent No. 7,103,563	United States	March 21, 2000	September 5, 2006	"Voisin"
U.S. Patent No. 5,712,957	United States	September 8, 1995	January 7, 1998	"Waibel"

Patent Number	Country of Origin	Filing or Priority Date	Date of Issue or Publication	Short Cite
Japan Patent No. JP2002-041084	Japan	July 26, 2000	February 8, 2002	"Wakabayashi"
U.S. Patent No. 7,609,829	United States	March 17, 2004	October 27, 2009	"Wang"
U.S. Patent No. 6,584,464	United States	March 19, 1999	June 24, 2003	"Warthen"
DE 69,923,191	Germany	September 8, 1999	January 5, 2006	"Weber I"
US Patent No. 6,532,444	United States	October 5, 1998	March 11, 2003	"Weber II"
US Patent No. 6,434,524	United States	October 5, 1999	August 13, 2002	"Weber III"
U.S. Patent No. 7,949,529	United States	August 29, 2005	May 24, 2011	"Weider I"
U.S. Patent No. 9,495,957	United States	August 25, 2014	November 15, 2016	"Weider II"
WO2007027546A2	WO	August 29, 2006	March 8, 2007	"Weider III"
Japan Patent No. JP2000-4212664	Japan	December 27, 2002	July 29, 2004	"Yano"
Japanese Patent Publication No: 2002-297626	Japan	March 30, 2001	October 11, 2002	"Yonebayashi"
Japan Patent No. JP2002287793A	Japan	March 28, 2001	October 4, 2002	"Yoshitake"
U.S. Patent App. Pub. No. 2007/0078708	United States	September 30, 2005	April 5, 2007	"Yu"
U.S. Patent No. 7,826,945B2	United States	July 1, 2005	November 2, 2010	"Zhang"

2. Table 2: Non-Patent Publications

Title	Date of Publication	Author/Publisher	Short Cite
AMT Mobile Speech Task	2012-2013	MIT	"AMT Mobile Speech Task"
"You Are What You Say: Using Meeting Participants' Speech to Detect their Roles and Expertise"	2006	Satanjeev Banerjee and Alexander Rudnicky	"Banerjee"

Title	Date of Publication	Author/Publisher	Short Cite
"A Language Generation Module for Conversational Systems"	2000[2]	Lauren M. Baptist	"Baptist"
"Designing Interactive Speech Systems: From First Ideas to User Testing"	1998	Niels Ole Bernsen et al.	"Bernsen"
"Goal-Oriented Multimedia Dialogue with Variable Initiative"	1997	Alan W. Biermann et al., Duke University	"Biermann"
"The Multimedia Articulation of Answers in a Natural Language Database Query System"	1988	Susan E. Brennan, Second Conference on Applied Natural Language Processing	"Brennan"
"Toward speech as a knowledge resource"	2001	E.W. Brown et al.	"Brown"
"Ten Golden Rules to Search Advertising"	2005	Kate Burns	"Burns"
"HeyAnita.com Business Development Presentation"	2000	HeyAnita	"Business Development Presentation"
"Case Study: Tier 1 U.S. Wireless Carrier Delivers Voice-Enhanced Services Utilizing HeyAnita's Flexible Technology"	2002	HeyAnita	"Case Study: Tier 1 U.S. Carriers"
"Case Study: Largest U.S. VoIP Provider and HeyAnita Launch Voice Dialing Service for Global ISP"	2002	HeyAnita	"CASE Study: Voice Dialing Service"
"Using Decision Trees for Agent Modeling: Improving Prediction Performance"	1997	Bark Cheung Chiu & Geoffrey I. Webb	"Chiu III"
"Dialogue management systems: a survey and overview"	1997	G. Churcher et al.	"Churcher"
VoiceBox Corporate Backgrounder	2003[3]	VoiceBox	"Cybermind Backgrounder"

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Title	Date of Publication	Author/Publisher	Short Cite
VoiceBox Chip Talk	2003[4]	VoiceBox	"Cybermind Chip Talk"
VoiceBox News	2003[5]	VoiceBox	"Cybermind Distribution"
VoiceBox Products How it Works	2002	VoiceBox	"Cybermind How it Works"
VoiceBox King5 Demonstration	2003[6]	VoiceBox	"Cybermind King5 Demo"
VoiceBox MSNBC Demonstration	2004[7]	VoiceBox	"Cybermind MSNBC Demo"
VoiceBox About us	2003[8]	VoiceBox	"Cybermind SDK"
"Talk to this software; it will respond"	2003[9]	Seattle Times	"Cybermind Seattle Times Article"
VoiceBox Voice Information Retrieval Software Smart Display Edition	2003[10]	VoiceBox	"Cybermind Smart Display"
VoiceBox Products Software[11]	2002	VoiceBox	"Cybermind Software"

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[6] Available at https://web.archive.org/web/20030527180604/http://voicebox.com/; https://web.archive.org/web/20030601111739/http://voicebox.com/documents/VoiceBox.w mv.
[7] Available at https://web.archive.org/web/20040512192102/http://www.voicebox.com/; https://web.archive.org/web/20040512192102/http://www.voicebox.com/documents/ msnbc.wmv; https://web.archive.org/web/20040419054024/http://voicebox.com/ documents/pr_msnbc.pdf.
[8] Available at https://web.archive.org/web/20030407060147/http://voicebox.com:80/aboutus/ index.html.
[9] Available at https://web.archive.org/web/20030716033019/http:/seattletimes. nwsource.com/html/mondaytechnology/134689191_btinterface05.html.
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Title	Date of Publication	Author/Publisher	Short Cite
VoiceBox TechTV Demonstration	2004[12]	VoiceBox	"Cybermind TechTV Demo"
VoiceBox Test Marketing Program	2003[13]	VoiceBox	"Cybermind Test Marketing"
VoiceBox Products User Experience	2002[14]	VoiceBox	"Cybermind User Experience"
VoiceBox WB-Hou Demonstration	2004[15]	VoiceBox	"Cybermind WB-Hou Demo"
"Detecting Online Commercial Intention (OCI)"	2006	Honghua (Kathy) Dai et al.	"Dai"
"Speech and Language Processing for Multimodal Human-Computer Interaction"	2004[16]	L. Deng et al.	"Deng"
"Internet Advertising via 'Behavioral Targeting'"	2004	Eric J. Sinrod, Duane Morris LLP	"Duane Morris"
"Tellme Networks, Inc."	November 15, 2005[17]	Thomas R. Eisenmann et al.	"Eisenmann"
"Sponsored Search: A Brief History"	2006	Daniel C. Fain & Jan O. Pedersen	"Fain"
"Digital Signal Processing in Telecommunications"	1996	Anibal R. Figueiras-Vidal ed.	"Figueiras-Vidal"

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[15] Available at https://web.archive.org/web/20040723063303/http://www.voicebox.com/news.php; https://web.archive.org/web/20040724181021/http://www.voicebox.com/ documents/wb- hou.wmv.
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"A Context Resolution Server for the Galaxy Conversational Systems"	2002[18]	Edward A. Filisko	"Filisko"
MIT FlightBrowser Spoken Language Video	2012[19]	MIT	"FlightBrowser"
"Collaboration, Dialogue, and Human-Robot Interaction"	2003	Terrence Fong, Charles Thorpe & Charles Baur	"Fong"
"Conversation, co-ordination, and convention: an empirical investigation of how groups establish linguistic conventions"	1994	Simon Garrod and Gwyneth Doherty	"Garrod"
"A General Approach to Speech Recognition"	1995	Christoph Gerber	"Gerber"
"Handbook of Multimodal and Spoken Dialogue Systems"	2000	Dafydd Gibbon et al. eds.	"Gibbon"
"Real-Time Telephone-Based Speech Recognition in the Jupiter Domain"	1999[20]	James R. Glass et al.	"Glass I"
"Telephone-Based Conversational Speech Recognition in the Jupiter Domain"	1998[21]	James R. Glass et al.	"Glass II"
"Why We're Buying DoubleClick"	June 26, 2007	Alex Kinnier	"Google Blog"
"Google Launches Self-Service Advertising Program"	2000	Google	"Google Press Release"
"Logic and Conversation"	1975	H.P. Grice in 3 Syntax and Semantics 41, Academic Press	"Grice"

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[19] Available at https://www.youtube.com/watch?v=RRYj0SMhfH0
[20] Published in Proceedings of 1999 IEEE International Conference on Acoustics, Speech, and Signal Processing. Available at https://groups.csail.mit.edu/sls/publications/1999/icassp99- jupiter.pdf
[21] Published in the Proceedings of 1998 International Conference on Spoken Language Processing. Available at https://groups.csail.mit.edu/sls/publications/1999/icassp99- jupiter.pdf

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"Mechanisms for Mixed-Initiative Human-Computer Collaborative Discourse"	1996	Guinn	"Guinn"
"Recognition confidence scoring and its use in speech understanding systems"	2002	Timothy J. Hazen et al., Academic Press	"Hazen"
"Voice Automation in the Call Center"	2002	HeyAnita	"HeyAnita Call Center"
"HeyAnita Company Presentation"	1999-2000	HeyAnita	"HeyAnita Company Presentation"
"HeyAnita Demonstration"	2000-2004	HeyAnita	"HeyAnita Demo"
"FreeSpeech™ Voice Browser – The Most Efficient and Robust Voice Browser in the Market Today"	2002	HeyAnita	"HeyAnita FreeSpeech Browser"
"FreeSpeech™ Gateway Server – Flexible Solutions for Voice-Powered Communication"	2002	HeyAnita	"HeyAnita FreeSpeech Gateway Server"
"HeyAnita Launches FreeSpeech Platform Products: VoiceXML Browser and Developer Web Site"	2001	HeyAnita	"HeyAnita FreeSpeech Platform Products"
"FreeSpeech™ Platform – A Foundation for Voice-Powered Communication"	2002	HeyAnita	"HeyAnita FreeSpeech Platform"
"Web scraping code showing use of Kozmo for shopping"	2002	HeyAnita	"HeyAnita Kozmo Code"
"HeyAnita TV Scheduling and Food Ordering Demonstration"	2000-2004	HeyAnita	"HeyAnita Scheduling and Ordering Demo"
"HeyAnita STP (Secure Transfer Protocol) - Secure Access to Corporate Data"	2002	HeyAnita	"HeyAnita STP"
"HeyAnita – Technology Services"	May 2001	HeyAnita	"HeyAnita Technology Services"
"HeyAnita.com Usage Scenarios"	2002	HeyAnita	"HeyAnita Usage Scenarios"

Title	Date of Publication	Author/Publisher	Short Cite
"HeyAnita – Voice Portal Technologies"	April 2001	HeyAnita	"HeyAnita Voice Portal"
"Voice ... The Closest Thing to the Human Touch"	2001	HeyAnita	"HeyAnita Voice"
"VoiceManager™ - Voice-Enabled Technology for Business Users"	2002	HeyAnita	"HeyAnita VoiceManager"
"White Paper on HeyAnita's Vision and Strategy"	2001	HeyAnita	"HeyAnita White Paper"
"Spoken Language Processing: A Guide to Theory, Algorithm and System Development"	2000[22]	Xuedong Huang et al.	"Huang"
"MiPad: A Next Generation PDA Prototype"	2000[23]	Xuedong Huang et al.	"Huang II"
"IAB Internet Advertising Revenue Report"	May 2007	Interactive Advertising Bureau	"IAB"
"The Targeting of Advertising"	2004	Ganesh Iyer	"Iyer"
"The Effect of Establishing Coherence in Ellipsis and Anaphora Resolution"	1993	Andrew Kehler	"Kehler"
"User Models in Dialog Systems"	1989	Kobsa & Wahlster eds., Springer-Verlag	"Kobsa"
"The Gricean Maxims in NLP – A Survey"	2024	Lea Krause & Piek Vausen	"Krause"
"Integrated Technologies for Indexing Spoken Language"	2000	Francis Kubala et al.	"Kubala"
"SLLS: An Online Conversational Spoken Language Learning System"	2003[24]	Tien-Lok Jonathan Lau	"Lau"

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"A Distributed Architecture for Cooperative Spoken Dialogue Agents with Coherent Dialogue State and History"	1999	Bor-Shen Lin et al.	"Lin"
"Initial Study on Automatic Identification of Speaker Role in Broadcast News Speech"	2006	Yang Liu	"Liu II"
"Developing Linguistic Corpora: a Guide to Good Practice"	2004	Geoffrey Leech, Lancaster University	"Leech"
"Discourse PEGS: A Computational Analysis of Context-Dependent Referring Expressions"	1991	Susann Luperfoy, PhD Dissertation, University of Texas at Austin	"Luperfoy"
"Notes on Formalizing Context"	1993	John McCarthy, Proceedings of the 13th International Joint Conference on Artificial Intelligence, Vol. 1	"McCarthy"
"Spoken Dialogue Technology"	2004	Michael F. McTear	"McTear"
Microsoft Computer Dictionary excerpts	2002	Microsoft, 5th ed.	"Microsoft Computer Dictionary"
"HeyAnita: Interactive voice portal provides access to Internet information from any telephone"	2000	Microsoft	"Microsoft HeyAnita Article"
MiPad Demonstration	2001[25]	Microsoft	"MiPad Demo Video"
"MiPad-Microsoft Research"	2002[26]	Microsoft	"MiPad-Microsoft Research"
MIT Galaxy Spoken Language Video	1994[27]	MIT	"MIT Galaxy"

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[26] Available at https://www.microsoft.com/en-us/research/project/mipad/.
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MIT Voyager Spoken Language Video	1989[29]	MIT	"MIT Voyager"
"Quality of Telephone-Based Spoken Dialogue Systems"	2005	Sebastian Möller	"Möller"
"'I'll Get That Off the Audio': A Case Study of Salvaging Multimedia Meeting Records"	1997	Thomas P. Moran et al.	"Moran"
"Grounding New Words on the Physical World in Multi-Domain Human-Robot Dialogues"	2010	Mikio Nakano et al.	"Nakano"
"Newton's Telecom Dictionary"	2001	Harry Newton	"Newton"
"Not-So-Organic Grocery Store"	October 10, 2004[30]	Tellme	"Not-So-Organic Grocery Store"
"Web Surfing, at the Sound of Your own Voice"	2000[31]	New York Times	"NY Times Article"
Orion: Spoken Language Task Delegation Video	2000[32]	MIT	"Orion"
SesaME: A Framework for Personalised and Adaptive Speech Interfaces	2003	Botond Pakucs	"Pakucs"
"Towards Dynamic Multi-Domain Dialogue Processing"	2003	Botond Pakucs	"Pakucs II"
"The Influence of Role-Switching on Phonetic Convergence in Conversation"	2013	Pardo et al.	"Pardo"

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"Speech Processing – Speech and the Internet"	2001	Philips	"Philips Presentation"
"Design of Speech-Based Devices"	2003	Ian Pitt and Alistair Edwards	"Pitt"
"The Online Advertising Playbook"	2007	Joe Plummer et al.	"Plummer"
"Contextual Coherence in Natural Language Processing"	2003	Robert Porzel and Iryna Gurevych	"Porzel"
"Question-Answering by Predictive Annotation"	2000	John Prager et al., IBM	"Prager"
"Application-Specific Issues in Natural Language Interfacer Development for a Diagnostic Expert System"	1988	Karen Ryan, Rebecca Root, Duane Olawsky (Honeywell)	"Ryan"
"A Robust Parser and Dialog Generator for a Conversational Office System"	1986	Christopher Schmandt and Barry Arons, MIT	"Schmandt"
"The Intelligent Ear: A Graphical Interface to Digital Audio"	1981	Christopher Schmandt	"Schmandt II"
"The Intelligent Voice-Interactive Interface"	1981	Christopher Schmandt and Eric A. Hulteen	"Schmandt III"
"Response Planning and Generation in the Mercury Flight Reservation System"	2002[33]	Stephanie Seneff	"Seneff I"
"Dialogue Management in the Mercury Flight Reservation System"	2000[34]	Stephanie Seneff et al.	"Seneff II"
"Hypothesis Selection and Resolution in the Mercury Flight Reservation System"	2001[35]	Stephanie Seneff et al.	"Seneff III"

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[35] Published in the Proceedings of the First International Conference on Human Language Technology Research, 2001. https://www.aclweb.org/anthology/H01-1032/

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"Galaxy-II: A Reference Architecture for Conversational System Development"	1998	Stephanie Seneff et al.	"Seneff IV"
"Multimodal Discourse Modelling in a Multi-User Multi-Domain Environment"	1996	Stephanie Seneff et al.	"Seneff V"
"Operating System Concepts"	1994	Abraham Silberschatz and Peter B. Galvin, Addison-Wesley	"Silberschatz"
"SmartKom: Foundations of Multimodal Dialogue Systems"	August 4, 2006	Spinger Science + Business Media, Inc. (Wolfgang Wahlster ed.)	"SmartKom"
"An Architecture for Voice Dialog Systems Based on Prolog-Style Theorem Proving"	1995	R.W. Smith	"Smith & Hipp"
Telesensory Products	2003[36]	Telesensory	"Telesensory SoundAdvice"
"Industrial Parsing of Software Manuals"	1996	Richard F.E. Sutcliffe et al.	"Sutcliffe"
Telesensory Products SoundAdvice Information Content	2003[37]	Telesensory	"Telesensory SoundAdvice Information Content"
Telesensory SoundAdvice Data Sheet	2003[38]	Telesensory	"Telesensory SoundAdvice Data Sheet"
Telesensory Products Low Vision Content	2003[39]	Telesensory	"Telesensory SoundAdvice Low Vision"
"ShopTalk and Tellme: V-Commerce ASP Deal"	2000	The Kelsey Group	"Tellme Article"
"The Science Elf: What was the Microsoft MiPad?"	1998-2002[40]	The Science Elf	"The Science Elf"

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[37] Available at http://web.archive.org/web/20030618104121/http://www.telesensory.com/ SAInf_Content.html.
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Title	Date of Publication	Author/Publisher	Short Cite
"A Personalized System for Conversational Recommendations"	March 2004	Cynthia Thompson et al.	"Thompson"
"Vodafone Speech Services"	2001	SpeechWorks	"Vodafone Presentation"
"Meeting Browser: Tracking and Summarizing Meetings"	1998	Waibel, A., et al.	"Waibel II"
"Robust Language Understanding in MiPad"	2001[41]	Yu-Yi Wang	"Wang"
MIT Weather Query Video	2013[42]	MIT	"Weather Query"
"A Language Model Adaptation Using Multiple Varied Corpora"	2002	Hirofumi Yamamoto and Yoshinori Sagisaka	"Yamamoto"
"NL Understanding with a Grammar of Constructions"	1994	Wlodek Zadrozny et al., International Conference of Computational Linguistics	"Zadrozny"
"Jupiter: A Telephone-Based Conversational Interface for Weather Information"	2000[43]	Victor Zue et al.	"Zue"

Samsung further incorporates by reference all "U.S. Patent Documents," "Foreign Patent Documents," and "Other Publications" cited on the face of the Asserted Patents. Any citation to one or more of the above prior art references, or other prior art references regarding any method or system, should be construed to constitute not only a citation to the prior art reference itself, but also a reference to the system itself. Discovery has only recently begun in this case, and Samsung will supplement if and when more information becomes available from Plaintiff or third parties.

[41] Published in Proceedings of 2001 Eurospeech.
[42] Available at https://www.youtube.com/watch?v=sga1Y_gwH2M
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B. Prior Art Disclosures—Public Use/Sales/Offers for Sale/Available to the Public

Samsung believes that there were prior art disclosures in the form of sales, offers for sale, and/or uses by others of products that qualify as prior art under AIA 35 U.S.C. § 102(a)(1) against one or more of the Asserted Claims of each of the Asserted Patents. The below-identified prior art products include products that Samsung is currently aware of through an on-going diligent and reasonable investigation at this early stage of discovery and/or based on public available information. Details regarding such offers for sale and public uses may be within the possession of third parties. As discovery progresses, Samsung intends and reserves the right to promptly supplement and/or amend the lists below to include additional prior art products that anticipate and/or render the Asserted Claims obvious.

Table 3: Prior Art Systems and Inventions

System/Service	Relevant Dates	Persons/Entities Involved in Prior Use, Sale, and/or Offers for Sale	Short Cite
GyrusLogic	2004	Luis Valles	"GyrusLogic"

System/Service	Relevant Dates	Persons/Entities Involved in Prior Use, Sale, and/or Offers for Sale	Short Cite
MITGalaxy[44] Glass I Glass II Seneff I Seneff II Seneff III Zue Lau Filisko Baptist	2003	MIT Galaxy	"MIT Galaxy"
Live Information Selection and Analysis System[45]	2000	International Business Machines Corporation design, developed, used, advertised, published, and also offered for sale and/or sold to its customers this system as evidence at least by the documents identified herein.	"LISA"
Virtual Assistant System[46]	2003	Avaya design, developed, used, advertised, published, and also offered for sale and/or sold to its customers this system as evidence at least by the documents identified herein.	"VA"

[44] This includes a non-limiting list of publications describing the MIT Galaxy system (this applies to all charts identifying MIT Galaxy in these contentions). This also includes the MIT Galaxy Videos MIT Voyager, MIT Galaxy, FlightBrowser, Weather Query, Orion, and AMT Mobile Speech Task; and MIT Galaxy source code.

[45] Live Information Selection and Analysis System was publicly available and/or demonstrated in 2000 since LISA was disclosed in U.S. Patent No. 6,898,631, which was filed in October 12, 2000.

[46] Virtual Assistance System was publicly available and/or demonstrated in 2003. *See e.g.* "Avaya™ Interactive Voice Response Security", available at https://downloads.avaya.com/css/P8/documents/100009990.

System/Service	Relevant Dates	Persons/Entities Involved in Prior Use, Sale, and/or Offers for Sale	Short Cite
Janus System[47]	1995	Carnegie Mellon University design, developed, used, advertised, published, and also offered for sale and/or sold to its customers this sytem as evidence at least by the documents identified herein.	"JANUS"
MIT Voyager[48]	1995	MIT design, developed, used, advertised, published, and also offered for sale and/or sold to its customers this system as evidence at least by the documents identified herein.	"MIT Voyager"
HeyAnita[49]	2001	Kirusa designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers this system as evidence at least by the documents identified herein.	"HeyAnita"

[47] Janus System was publicly available and/or demonstrated in 1995 since JANUS was disclosed in U.S. Patent No.: 5,712,957 ("Waibel") which was filed in September 8, 1995 where Alex Waibel is a listed inventor. See e.g. Waibel, Alex et. al., "A System for Translation of Conversational Speech", available at https://www.cs.cmu.edu/~alavie/papers/KI.pdf (where Alex Waibel is listed as an author).

[48] MIT Voyager was publicly available and/or demonstrated in 1995 since MIT Voyager was disclosed in United States Patent No. 5,712,957 ("Waibel"), which was filed in September 8, 1995. *See also, e.*g., Glass, James et. al., "Multilingual Spoken-Language Understanding In the MIT Voyager System" available at https://groups.csail.mit.edu/sls/publications/1995/speechcomm95-voyager.pdf.

[49] HeyAnita was publicly available and/or demonstrated in 2001 since HeyAnita was disclosed in U.S. Patent Publication No.: 2003/0078779 ("Desai") which was claims priority PCT/US01/00376 filed in January 4, 2001.

System/Service	Relevant Dates	Persons/Entities Involved in Prior Use, Sale, and/or Offers for Sale	Short Cite
Air Travel Information Service[50]	1990-1994	SRI International along with MIT, Microsoft, and TI designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers this system as evidence at least by the documents identified herein.	"ATIS"
Quick Ubiquitous Access to Consumer Knowledge[51]	1998-2000	AOL designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers this system as evidence at least by the documents identified herein.	"QUACK"
Open Agent Architecture[52]	1996-1997	SRI International designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers this system as evidence at least by the documents identified herein.	"OAA"

[50] *See e.g.*, Air Travel Information Service (ATIS), available at http://www.ai.sri.com/natural-language/projects/arpa-sls/atis.html.

[51] Quick Ubiquitous Access to Consumer Knowledge was publicly available and/or demonstrated in 2000 since QUACK was disclosed in U.S. Patent Publication No. 2005/0033582 ("Gadd"), which was claims priority to PCT/GB02/00878 filed in February 28, 2002.

[52] Upon information and belief, the public release and testing of version 1.0 of the Open Agent Architecture, includes releases of a tutorial describing the open agent architecture and a publication describing agents for the Open Agent Architecture. *See, e.g.*, OAA Tutorial, *available at* http://www.ai.sri.com/~oaa/distribution/distribv1/tutorial.html ("OAA Tutorial"); OAA Agents, available at http://www.ai.sri.com/~oaa/distribution/agents/agents.html.

System/Service	Relevant Dates	Persons/Entities Involved in Prior Use, Sale, and/or Offers for Sale	Short Cite
Nuance Voice Platform System	2005	Nuance designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system as evidenced at least by the documents identified herein.	"NVP System"
VoiceBox Cybermind System[53]	2002-2004	VoiceBox designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system as evidenced at least by the documents identified herein.	"Cybermind System"
Tellme System[54]	2004-2005	Tellme designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other	"Tellme System"

[53] The VoiceBox Cybermind System includes, but is not limited to, publications, demonstrations, prototypes, and source code. *See, e.g.*, Cybermind How it Works; Cybermind Software; Cybermind User Experience; Cybermind Chip Talk; Cybermind King5 Demo; Cybermind MSNBC Demo; Cybermind TechTV Demo; Cybermind WB-Hou Demo; Cybermind Seattle Times Article; Cybermind Backgrounder; Cybermind Smart Display; Cybermind SDK; Cybermind Distribution; Cybermind Test Marketing. The VoiceBox Cybermind System also includes the Telesensory SoundAdvice System.

[54] The Tellme System includes, but is not limited to, Eisenmann, Not-So-Organic Grocery Store, Tellme Article, NY Times Article, Tellme 800-555-TELL System, Tellme Fandango System, Tellme E*TRADE System, Tellme AT&T System, Tellme Merrill Lynch System, Tellme Orbitz System, Tellme Song System, Tellme UnitedHealth Group System, and Tellme Singular Wireless System. Each of these systems is also independently a standalone prior art system.

System/Service	Relevant Dates	Persons/Entities Involved in Prior Use, Sale, and/or Offers for Sale	Short Cite
		third parties this system as evidenced at least by the documents identified herein.	
Tellme 800-555-Tell System[55]	2004-2005	Tellme designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system as evidenced at least by the documents identified herein.	"Tellme 800-555-Tell System"
Tellme Fandango System[56]	2003	Tellme designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system as evidenced at least by the documents identified herein.	"Tellme Fandango System"
Tellme E*TRADE	2003	Tellme designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential	"Tellme E*TRADE System"

[55] The Tellme 800-555-Tell System is part of the Tellme System and is independently a standalone prior art system. The Tellme 800-555-Tell system includes, but is not limited to, Eisenmann, Not-So-Organic Grocery Store, Tellme Article, NY Times Article, technical specifications, and source code.
[56] The Tellme 800-555-Tell System is part of the Tellme System and is independently a standalone prior art system. The Tellme 800-555-Tell system includes, but is not limited to, Eisenmann, Not-So-Organic Grocery Store, Tellme Article, NY Times Article, technical specifications, and source code.

System/Service	Relevant Dates	Persons/Entities Involved in Prior Use, Sale, and/or Offers for Sale	Short Cite
System[57]		customers, and other third parties this system as evidenced at least by the documents identified herein.	
Tellme AT&T System[58]	2003	Tellme designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system as evidenced at least by the documents identified herein.	"Tellme AT&T System"
Tellme Merrill Lynch System[59]	2003	Tellme designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system as evidenced at least by	"Tellme Merrill Lynch System"

[57] The Tellme E*TRADE System is part of the Tellme System and is independently a standalone prior art system. The Tellme E*TRADE system includes, but is not limited to, Eisenmann, Not-So-Organic Grocery Store, Tellme Article, NY Times Article, technical specifications, and source code. *See, e.g.*, https://web.archive.org/web/20031219031053/http://www.tellme.com/client-etrade.html.

[58] The Tellme Fandango System is part of the Tellme System and is independently a standalone prior art system. The Tellme Fandango system includes, but is not limited to, Eisenmann, Not-So-Organic Grocery Store, Tellme Article, NY Times Article, technical specifications, and source code. *See, e.g.*, https://web.archive.org/web/20031219031005/http://www.tellme.com/client-fandango.html; https://web.archive.org/web/20030603182954/http://www.fandango.com/phone_info.asp.

[59] The Tellme Merrill Lynch System is part of the Tellme System and is independently a standalone prior art system. The Tellme Merrill Lynch system includes, but is not limited to, Eisenmann, Not-So-Organic Grocery Store, Tellme Article, NY Times Article, technical specifications, and source code. *See, e.g.*, https://web.archive.org/web/20040212033055/http://www.tellme.com/client- merrilllynch.html.

System/Service	Relevant Dates	Persons/Entities Involved in Prior Use, Sale, and/or Offers for Sale	Short Cite
		the documents identified herein.	
Tellme Orbitz System[60]	2003	Tellme designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system as evidenced at least by the documents identified herein.	"Tellme Orbitz System"
Tellme Song System[61]	2003	Tellme designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system as evidenced at least by the documents identified herein.	"Tellme Song System"
Tellme UnitedHealth	2003	Tellme designed, developed, used, advertised, published, and also offered for sale and/or sold to its	"Tellme UnitedHealth System"

[60] The Tellme Orbitz System is part of the Tellme System and is independently a standalone prior art system. The Tellme Orbitz system includes, but is not limited to, Eisenmann, Not- So-Organic Grocery Store, Tellme Article, NY Times Article, technical specifications, and source code. *See, e.g.*, https://web.archive.org/web/20040212032721/http://www.tellme.com/client-orbitz.html.

[61] The Tellme Song System is part of the Tellme System and is independently a standalone prior art system. The Tellme Song system includes, but is not limited to, Eisenmann, Not-So- Organic Grocery Store, Tellme Article, NY Times Article, technical specifications, and source code. *See, e.g.*, https://web.archive.org/web/20040212130019/http://www.tellme.com/client-song.html.

System/Service	Relevant Dates	Persons/Entities Involved in Prior Use, Sale, and/or Offers for Sale	Short Cite
Group System[62]		customers, potential customers, and other third parties this system as evidenced at least by the documents identified herein.	
Tellme Cingular Wireless System[63]	2005	Tellme designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system as evidenced at least by the documents identified herein.	"Tellme Cingular System"
Telesensory SoundAdvice System[64]	2003	Telesensory designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system as evidenced at least by	"Telesensory SoundAdvice"

[62] The Tellme UnitedHealth Group System is part of the Tellme System and is independently a standalone prior art system. The Tellme UnitedHealth Group system includes, but is not limited to, Eisenmann, Not-So-Organic Grocery Store, Tellme Article, NY Times Article, technical specifications, and source code. *See, e.g.*, https://web.archive.org/web/20040212130247/http://www.tellme.com/client-uhg.html.

[63] The Tellme Cingular Wireless System is part of the Tellme System and is independently a standalone prior art system. The Tellme Cingular Wireless system includes, but is not limited to, Eisenmann, Not-So-Organic Grocery Store, Tellme Article, NY Times Article, technical specifications, and source code. *See, e.g.*, https://web.archive.org/web/20050426010146/http://www.tellme.com/client-cingular.html.

[64] The Telesensory SoundAdvice System is part of the VoiceBox Cybermind System and is independently a standalone prior art system. The Telesensory SoundAdvice System includes, but is not limited to, publications, demonstrations, prototypes, and source code. *See, e.g.*, Telesensory SoundAdvice; Telesensory SoundAdvice Low Vision; Telesensory SoundAdvice Information Content.

System/Service	Relevant Dates	Persons/Entities Involved in Prior Use, Sale, and/or Offers for Sale	Short Cite
		the documents identified herein.	
Microsoft MiPad System[65]	2002-2003	Microsoft designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other	"Microsoft MiPad System"
Microsoft Speech Server System[66]	2004	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 as evidenced at least by the documents identified herein.	"Microsoft Speech Server System"
Scansoft United System[67]	2004-2005	Scansoft designed, developed, used, advertised, published, and also offered for sale	"United System"

[65] The Microsoft MiPad System includes, but is not limited to, the MiPad Demo Video, publications, demonstrations, protypes, and source code related to the MiPad, MiPad Server and Voice.Net.

[66] The Microsoft Speech Server System includes, but is not limited to, publications, demonstrations (e.g., the MiPad Demo Video), training materials, and source code related to Microsoft Speech Server 2004, the Microsoft Speech Server SDK, and third-party implementations, including by Accenture, Solar Software, Voice Automation, bridgeSpeak, Datria, Edify, Metaphor Solutions, Talbots, Consolidated Insurance, and New York City Department of Education.

[67] The ScanSoft United System includes, but is not limited to, Change Travel Details Diagram, Collect Passenger Information Diagram, Customer Book and Ticket E-mail Address Collection User Interface Specification, Customer Book and Ticket Collect Name User Interface Specification, Address Call Flow Diagram, Customer Book and Ticket Seating User Interface

System/Service	Relevant Dates	Persons/Entities Involved in Prior Use, Sale, and/or Offers for Sale	Short Cite
		and/or sold to its customers, potential customers, and other third parties this system as evidenced at least by the documents identified herein.	
Speechworks MINT System[68]	1999-2000	Speechworks designed, developed, used, advertised, published, and also offered for sale and/or sold to its customers, potential customers, and other third parties this system as evidenced at least by the documents identified herein.	"MINT System"

For each of the prior art devices identified above, Samsung has listed and produced documents as evidence of the relevant features and functionality to the extent that they are presently available and have been located. Samsung has obtained or is in the process of attempting to obtain the identified devices and has made or will make them available for inspection to the extent they are obtained. To the extent that one or more documents (e.g., user manual) may be used to describe aspects of a particular device, that device is a single reference for prior art purposes under 35 U.S.C. § 102. Some or all of the corroborating references may also separately

Specification, Reservations Automation CTI Phase 1 Detail Design Specification, Payment Collection Diagram, High Level Call Flow Diagram, Customer Book and Ticket Address Dialogue Module User Interface Specification, Customer Book and Ticket Start Over User Interface Specification.

[68] The SpeechWorks Mint System includes, but is not limited to, Baseline User Interphase Specification, User Order Specification, Exemplary Quote List, Final Requirement Specification, Baseline Integration Specification, Final Phase 2 Specification Requirements, and Call Flow Documentation.

qualify as prior art publications under pre-AIA 35 U.S.C. § 102 and may be used as invalidating references under pre-AIA 35 U.S.C. §§ 102 and/or 103. Further, Samsung is actively searching for information regarding at least the systems, devices, and/or inventions listed above in Table 3.

Discovery is ongoing, and Samsung may serve third parties with document subpoenas, and Samsung reserves the right to rely on documents produced by them. One or more of these devices, along with related documentation, may be invalidating, and Samsung reserves the right to supplement these contentions accordingly. Samsung continues to investigate any identified devices, including through potential discovery needed to be obtained via third party subpoenas, and reserves the right to supplement these contentions and accompanying claim charts after further investigation.

Upon information and belief, the systems were publicly disclosed, used, sold, or offered for sale in the United States before the alleged priority dates of the Asserted Patents. Samsung's investigation of such prior art systems is still ongoing and discovery has not yet been received from third parties who may have information concerning such prior art systems. Accordingly, subsequent discovery may reveal information that affects the disclosures and contentions herein. For example, subsequent discovery may provide additional information regarding whether or not any of the third-party prior art systems anticipate or render obvious the Asserted Patents. As such, Samsung reserves all rights to supplement its invalidity contentions.

Each prior art patent, publication, or product identified above was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing dates of the Asserted Patents, or was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the

patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

Because Samsung has not yet completed discovery in this case, including taking depositions of the named inventors, and otherwise obtaining discovery from Plaintiff and third parties, Samsung reserves the right to supplement these contentions with facts, documents, or other information learned at a later point through discovery or further investigation.

IV. P.R. 3-3(B) & (C) – INVALIDITY GROUNDS

Pursuant to P.R. 3-3(b), Samsung contends that certain prior art references identified herein 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(s) of the alleged invention, and/or (2) any of the other identified 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, Samsung 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 anticipation charts 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. Invalidity Under 35 U.S.C. § 102 - Anticipation

As stated above, Samsung 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(a), prior art references anticipating one or more of the Asserted Claims

are provided below. The prior art listed below anticipates the Asserted Claims under the proper construction of the claims and/or under Plaintiff's apparent interpretation of the claims reflected by Plaintiff's Complaint and Infringement Contentions.

1. The '681 Patent

The Asserted Claims of the '681 patent are anticipated and/or rendered obvious by prior art. Pursuant to P.R. 3-3(a), Samsung identifies the prior art references that anticipate or render obvious the Asserted Claims in the claim charts at Appendices A-1–A-33, which are incorporated as if fully set forth herein. The claim charts of Appendices A-1–A-33 show how these prior art references teach or suggest each and every element of the '681 patent Asserted Claims. For each reference or combination of references suggested by each chart and/or herein, Samsung indicates whether the prior art renders the claim anticipated and/or obvious pursuant to P.R. 3-3(b).

Appendix	Prior Art Reference
A-1	U.S. Patent App. Pub. No. 2003/0216919 ("Roushar")
A-2	International Publication No. WO 2000/46792 ("Lucente")
A-3	U.S. Patent No. 7,089,218 ("Visel")
A-4	U.S. Patent App. Pub. No. 2004/0193420 A1 ("Kennewick")
A-5	*Spoken Language Processing: A Guide to Theory, Algorithm, and System Development*, Xuedong Huang et al. (2000) ("Huang")
A-6	U.S. Patent App. Pub. No. 2005/0033582 A1 ("Gadd")
A-7	US Patent No. 2002/0133347 A1 ("Schoneburg")
A-8	U.S. Patent No. 6,839,896 B2 ("Coffman")
A-9	U.S. Patent App. Pub. No. 2003/0182123 ("Mitsuyoshi")
A-10	U.S. Patent App. Pub. No. 2003/0078779 ("Desai")
A-11	U.S. Patent No. 6,757,362 ("Cooper")

Appendix	Prior Art Reference
A-12	*A Distributed Architecture for Cooperative Spoken Dialogue Agents with Coherent Dialogue State and History*, Bor-Shen Lin et al. (1999) ("Lin")
A-13	U.S. Patent No. 8,775,459 ("Houck")
A-14	*Recognition Confidence Scoring and Its Use in Speech Understanding Systems*, Timothy J. Hazen (Academic Press, 2002) ("Hazen")
A-15	International Publication No. WO 2006/016307 ("Portele")
A-16	*A Personalized System for Conversational Recommendation*, Cynthia Thompson et al. ("Thompson")
A-17	U.S. Patent No. 6,430,531 ("Polish")
A-18	U.S. Patent No. 6,144,989 ("Hodjat I")
A-19	U.S. Patent No. 7,231,343 ("Treadgold")
A-20	U.S. Patent No. 7,558,731 ("Hodjat II")
A-21	Sebastian Möller, *Quality of Telephone-Based Spoken Dialogue Systems*, Springer Science + Business Media (2005) ("Möller")
A-22	"MIT Galaxy" system
A-22A	MIT Galaxy source code
A-23	Systems subject to further discovery
A-24	Nuance Voice Platform System
A-25	ScanSoft United System
A-26	SpeechWorks MINT System
A-27	HeyAnita
A-28	Cybermind System
A-29	TellMe System
A-30	Microsoft MiPad System
A-31	Tel@go

Appendix	Prior Art Reference
A-32	Verbomil
A-33	GyrusLogic

Pursuant to P.R. 3-3(a), Samsung further identifies additional prior art references that anticipate or render obvious the Asserted Claims in IPR No. IPR2025-00866, filed on April 25, 2025. Samsung attaches and incorporates IPR No. IPR2025-00866, including the petition (Appendix A-34A) and expert declaration of Stuart Lipoff (Appendix A-34B), as if fully set forth herein. IPR No. IPR2025-00866 shows how the prior art references identified in the table below teach or suggest each and every element of the Asserted Claims of the ’681 Patent. For each reference or combination of references suggested by each chart and/or herein, Samsung indicates whether the prior art renders the claim anticipated and/or obvious pursuant to P.R. 3-3(b).

Prior Art References Charted in IPR No. IPR2025-00866

SmartKom: Foundations of Multimodal Dialogue Systems, Spinger Science + Business Media, Inc. (Wolfgang Wahlster ed., 2006) (“SmartKom”)
User Models in Dialog Systems, Springer-Verlag (Kobsa & Wahlster eds., 1989) (“Kobsa”)
U.S. Patent App. Pub. No. 2004/0101198 (“Barbara”)
U.S. Patent App. Pub. No. 2002/0173960 (“Ross”)
U.S. Patent App. Pub. No. 2005/0278180 (“O’Neill”)
U.S. Patent App. Pub. No. 2010/0125458 (“Franco”)

The prior art identified above, and in Appendices A-1–A-33 and in IPR No. IPR2025-00866, individually anticipate and/or can be properly combined in multiple ways to demonstrate the obviousness of the Asserted Claims of the ’681 patent. Various combinations of the references would have naturally been considered as part of the exercise of ordinary skill by one skilled in the

art. The references disclosed in the attached charts and IPR petition and expert declaration, and herein are also directed to the same or similar features as the purported invention claimed in the Asserted Claims of the ’681 patent. To the extent Plaintiff contends that any of these features solved a problem in the art, the references cited herein show that that problem was known to those of ordinary skill and had already been solved using obvious solutions.

To that end, the Asserted Claims of the ’681 patent simply combine elements already combined and well known in the art and yield no more than what one skilled in the art would have expected from such a combination. For example, with respect to the ’681 patent, when confronted with the alleged problems described in the ’681 patent, one of ordinary skill in the art at the time of the alleged inventions would have been motivated to consider the techniques taught by the prior art cited in these Invalidity Contentions. Consideration of the teachings of this prior art, both individually and in combination, would necessarily lead to the alleged invention claimed in the ’681 patent. This is demonstrated by the cited prior art, which disclose all of the elements of the Asserted Claims of the ’681 patent, as well as motivations to modify or combine their individual teachings. One of skill in the art would have been motivated to either modify the prior art identified in the claim charts or to combine that prior art in the manner indicated, by, for example, their background knowledge, design incentives, effects of demands known to the design community, or other market forces. Moreover, the cited prior art share commonalities. To the extent it is argued that any cited prior art does not expressly disclose a particular claim or element, it would have been inherent in the disclosure and/or obvious to a person of ordinary skill in the art to include the claimed element to perform the invention as claimed in the ’681 patent.

As described in the attached charts and the attached IPR petition and expert declaration, all the elements of the Asserted Claims of the ’681 patent were commonplace before the alleged date

of inventions. For each element, there exists evidence from the cited prior art that it was well known in the art prior to the date of invention. To the extent it is argued any of the cited prior art references, systems, and/or products do not anticipate the Asserted Claims, it would have been obvious to a person of ordinary skill in the art that the Asserted Claims are merely combinations of well-known methods and systems resulting in expected results.

Additionally, Samsung hereby incorporates by reference the motivations to combine references set forth during the prosecution of the Asserted Claims of the ’681 patent, including the statements and reasoning set forth by the examiner, as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims of the ’681 patent.

In addition to contending that the ’681 patent Asserted Claims are invalid in view of the prior art references cited in the claim charts of Appendices A-1–A-33 and IPR No. IPR2025-00866, Samsung further contends that the ’681 patent Asserted Claims are invalid as anticipated and/or obvious under U.S.C. §§ 102 and/or 103 in view of public knowledge and uses and/or offers for sale of products and services related to the subject matter of the cited references. As discovery is ongoing, Samsung continues to investigate these items and to reserve the right to amend or supplement these contentions to include additional information or documents regarding such products and/or systems. In addition to contending that the ’681 patent Asserted Claims are invalid in view of the explicit disclosures of the prior art references cited in the claim charts of Appendices A-1–A-33 and IPR No. IPR2025-00866, Samsung further contends that the knowledge of skill evidenced by those references render those claims invalid. Samsung further contends that, even if a prior art reference does not expressly disclose all limitations as arranged or combined in the same manner as an asserted claim, a skilled artisan reading the reference would at once envisage the

claimed arrangement or combination. *See, e.g., Kennametal Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015).

Samsung's reference to a particular device or product in the claim charts of Appendices A-1–A-33 and IPR No. IPR2025-00866 should be interpreted alternatively as both a reference to the product itself and to any corresponding patents, publications, or product literature cited in the claim charts that relate to the cited device or product. In addition, Samsung may rely on other documents or things that have not yet been located to support its contentions regarding such prior art device(s) or product(s) that are referenced in the charts.

Where Samsung identifies a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure, as well as any text relating to the figure in addition to the figure itself. Similarly, where an identified portion of text refers to a figure, embodiment, or other material, the identification should be understood to include the referenced figure, embodiment, or other material as well. Consistent with P.R. 3-3(c), Samsung's citations to specific statements, figures, or disclosures in a prior art reference are sufficient to put Plaintiff on notice where each element of each Asserted Claim is found in the prior art. However, it should be recognized that a person of ordinary skill in the art would generally read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field. To understand and interpret any specific statement or disclosure in a prior art reference, a person of ordinary skill in the art would have relied upon other information including other publications and general scientific or engineering knowledge. Samsung therefore reserves the right to rely upon other unidentified portions of the prior art references and on other publications and expert testimony to provide context and to aid understanding and interpretation of the identified portions.

Samsung also reserves the right to rely upon other portions of the prior art references, other publications, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art, including the basis of modifying or combining certain cited references. To the extent any limitation is deemed not to be exactly met by an item of prior art, then any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time(s) of the alleged invention, in view of the state of the art and knowledge of those skilled in the art. To the extent that an element of an Asserted Claim is not anticipated, the claim is rendered obvious by combination with one or more other prior art references identified in the invalidity claim charts.

Samsung further identifies and hereby incorporates by reference as if set forth fully herein the prior art references and invalidity contentions as described in any Other Proceedings wherein invalidity contentions have been, or will be, provided regarding the Asserted Patents, their foreign counterparts, or any parent or child patent of the Asserted Patents. Samsung reserves the right to use any and all portions of the publications, related publications, commercial embodiments of the publications, and other evidence that is discovered in these lawsuits to demonstrate and/or evidence the components, functionality, and capabilities of the devices and systems disclosed in the references charted.

2. The ’341 Patent

The Asserted Claims of the ’341 patent are anticipated and/or rendered obvious by prior art. Pursuant to P.R. 3-3(a), Samsung identifies the prior art references that anticipate or render obvious the Asserted Claims in the claim charts Appendices B-1–B-37, which are hereby incorporated by reference as if fully set forth herein. The claim charts of Appendices B-1–B-37 show how these prior art references teach or suggest each and every element of the ’341 patent Asserted Claims. For each reference or combination of references suggested by each chart and/or

herein, Samsung indicates whether the prior art renders the claim anticipated and/or obvious pursuant to P.R. 3-3(b).

Appendix	Prior Art Reference
B-1	U.S. Patent App. Pub. No. 2003/0216919 ("Roushar")
B-2	International Publication No. WO 2000/46792 ("Lucente")
B-3	U.S. Patent No. 7,089,218 ("Visel")
B-4	Sebastian Möller, *Quality of Telephone-Based Spoken Dialogue Systems*, Springer Science + Business Media (2005) ("Möller")
B-5	*SmartKom: Foundations of Multimodal Dialogue Systems*, Spinger Science + Business Media, Inc. (Wolfgang Wahlster ed., 2006) ("SmartKom")
B-6	*User Models in Dialog Systems*, Springer-Verlag (Kobsa & Wahlster eds., 1989) ("Kobsa")
B-7	U.S. Patent App. Pub. No. 2004/0101198 ("Barbara")
B-8	U.S. Patent App. Pub. No. 2002/0173960 ("Ross")
B-9	U.S. Patent App. Pub. No. 2004/0193420 A1 ("Kennewick")
B-10	*Spoken Language Processing: A Guide to Theory, Algorithm, and System Development*, Xuedong Huang et al. (2000) ("Huang")
B-11	U.S. Patent App. Pub. No. 2005/0033582 A1 ("Gadd")
B-12	US Patent No. 2002/0133347 A1 ("Schoneburg")
B-13	U.S. Patent No. 6,839,896 B2 ("Coffman")
B-14	U.S. Patent App. Pub. No. 2003/0182123 ("Mitsuyoshi")
B-15	U.S. Patent App. Pub. No. 2003/0078779 ("Desai")
B-16	U.S. Patent No. 6,757,362 ("Cooper")
B-17	*A Distributed Architecture for Cooperative Spoken Dialogue Agents with Coherent Dialogue State and History*, Bor-Shen Lin et al. (1999) ("Lin")
B-18	U.S. Patent No. 8,775,459 ("Houck")

Appendix	Prior Art Reference
B-19	*Recognition Confidence Scoring and Its Use in Speech Understanding Systems*, Timothy J. Hazen (Academic Press, 2002) ("Hazen")
B-20	International Publication No. WO 2006/016307 ("Portele")
B-21	*A Personalized System for Conversational Recommendation*, Cynthia Thompson et al. ("Thompson")
B-22	U.S. Patent No. 6,430,531 ("Polish")
B-23	U.S. Patent No. 6,144,989 ("Hodjat I")
B-24	U.S. Patent No. 7,231,343 ("Treadgold")
B-25	U.S. Patent No. 7,558,731 ("Hodjat II")
B-26	"MIT Galaxy" system
B-26A	MIT Galaxy source code
B-27	Systems subject to further discovery
B-28	Nuance Voice Platform System
B-29	ScanSoft United System
B-30	SpeechWorks MINT System
B-31	HeyAnita
B-32	Cybermind System
B-33	TellMe System
B-34	Microsoft MiPad System
B-35	Tel@go
B-36	Verbomil
B-37	GyrusLogic

The prior art identified above, and in Appendices B-1–B-37 individually anticipate and/or can be properly combined in multiple ways to demonstrate the obviousness of the Asserted Claims

of the ’341 patent. Various combinations of the references would have naturally been considered as part of the exercise of ordinary skill by one skilled in the art. The references disclosed in the attached charts and herein are also directed to the same or similar features as the purported invention claimed in the Asserted Claims of the ’341 patent. To the extent Plaintiff contends that any of these features solved a problem in the art, the references cited herein show that that problem was known to those of ordinary skill and had already been solved using obvious solutions.

To that end, the Asserted Claims of the ’341 patent simply combine elements already combined and well known in the art and yield no more than what one skilled in the art would have expected from such a combination. For example, with respect to the ’341 patent, when confronted with the alleged problems described in the ’341 patent, one of ordinary skill in the art at the time of the alleged inventions would have been motivated to consider the techniques taught by the prior art cited in these Invalidity Contentions. Consideration of the teachings of this prior art, both individually and in combination, would necessarily lead to the alleged invention claimed in the ’341 patent. This is demonstrated by the cited prior art, which disclose all of the elements of the Asserted Claims of the ’341 patent, as well as motivations to modify or combine their individual teachings. One of skill in the art would have been motivated to either modify the prior art identified in the claim charts or to combine that prior art in the manner indicated, by, for example, their background knowledge, design incentives, effects of demands known to the design community, or other market forces. Moreover, the cited prior art share commonalities. To the extent it is argued that any cited prior art does not expressly disclose a particular claim or element, it would have been inherent in the disclosure and/or obvious to a person of ordinary skill in the art to include the claimed element to perform the invention as claimed in the ’341 patent.

As described in the attached charts, all the elements of the Asserted Claims of the ’341 patent were commonplace before the alleged date of inventions. For each element, there exists evidence from the cited prior art that it was well known in the art prior to the date of invention. To the extent it is argued any of the cited prior art references, systems, and/or products do not anticipate the Asserted Claims, it would have been obvious to a person of ordinary skill in the art that the Asserted Claims are merely combinations of well-known methods and systems resulting in expected results.

Additionally, Samsung hereby incorporates by reference the motivations to combine references set forth during the prosecution of the Asserted Claims of the ’341 patent, including the statements and reasoning set forth by the examiner, as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims of the ’341 patent.

In addition to contending that the ’341 patent Asserted Claims are invalid in view of the prior art references cited in the claim charts of Appendices B-1–B-37, Samsung further contends that the ’341 patent Asserted Claims are invalid as anticipated and/or obvious under U.S.C. §§ 102 and/or 103 in view of public knowledge and uses and/or offers for sale of products and services related to the subject matter of the cited references. As discovery is ongoing, Samsung continues to investigate these items and to reserve the right to amend or supplement these contentions to include additional information or documents regarding such products and/or systems. In addition to contending that the ’341 patent Asserted Claims are invalid in view of the explicit disclosures of the prior art references cited in the claim charts of Appendices B-1–B-37, Samsung further contends that the knowledge of skill evidenced by those references render those claims invalid. Samsung further contends that, even if a prior art reference does not expressly disclose all limitations as arranged or combined in the same manner as an asserted claim, a skilled artisan

reading the reference would at once envisage the claimed arrangement or combination. *See, e.g., Kennametal Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015).

Samsung's reference to a particular device or product in the claim charts of Appendices B-1–B-37 should be interpreted alternatively as both a reference to the product itself and to any corresponding patents, publications, or product literature cited in the claim charts that relate to the cited device or product. In addition, Samsung may rely on other documents or things that have not yet been located to support its contentions regarding such prior art device(s) or product(s) that are referenced in the charts.

Where Samsung identifies a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure, as well as any text relating to the figure in addition to the figure itself. Similarly, where an identified portion of text refers to a figure, embodiment, or other material, the identification should be understood to include the referenced figure, embodiment, or other material as well. Consistent with P.R. 3-3(c), Samsung's citations to specific statements, figures, or disclosures in a prior art reference are sufficient to put Plaintiff on notice where each element of each Asserted Claim is found in the prior art. However, it should be recognized that a person of ordinary skill in the art would generally read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field. To understand and interpret any specific statement or disclosure in a prior art reference, a person of ordinary skill in the art would have relied upon other information including other publications and general scientific or engineering knowledge. Samsung therefore reserves the right to rely upon other unidentified portions of the prior art references and on other publications and expert testimony to provide context and to aid understanding and interpretation of the identified portions.

Samsung also reserves the right to rely upon other portions of the prior art references, other publications, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art, including the basis of modifying or combining certain cited references. To the extent any limitation is deemed not to be exactly met by an item of prior art, then any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time(s) of the alleged invention, in view of the state of the art and knowledge of those skilled in the art. To the extent that an element of an Asserted Claim is not anticipated, the claim is rendered obvious by combination with one or more other prior art references identified in the invalidity claim charts.

Samsung further identifies and hereby incorporates by reference as if set forth fully herein the prior art references and invalidity contentions as described in any Other Proceedings wherein invalidity contentions have been, or will be, provided regarding the Asserted Patents, their foreign counterparts, or any parent or child patent of the Asserted Patents. Samsung reserves the right to use any and all portions of the publications, related publications, commercial embodiments of the publications, and other evidence that is discovered in these lawsuits to demonstrate and/or evidence the components, functionality, and capabilities of the devices and systems disclosed in the references charted.

3. The ’699 Patent

The Asserted Claims of the ’699 patent are anticipated and/or rendered obvious by prior art. Pursuant to P.R. 3-3(a), Samsung identifies the prior art references that anticipate or render obvious the Asserted Claims in the claim charts Appendices C-1–C-35, which are hereby incorporated by reference as if fully set forth herein. The claim charts of Appendices C-1–C-35 show how these prior art references teach or suggest each and every element of the ’699 patent Asserted Claims. For each reference or combination of references suggested by each chart and/or

herein, Samsung indicates whether the prior art renders the claim anticipated and/or obvious pursuant to P.R. 3-3(b).

Appendix	Prior Art Reference
C-1	U.S. Patent App. Pub. No. 2003/0216919 ("Roushar")
C-2	International Publication No. WO 2000/46792 ("Lucente")
C-3	U.S. Patent No. 7,089,218 ("Visel")
C-4	Sebastian Möller, *Quality of Telephone-Based Spoken Dialogue Systems*, Springer Science + Business Media (2005) ("Möller")
C-5	*SmartKom: Foundations of Multimodal Dialogue Systems*, Spinger Science + Business Media, Inc. (Wolfgang Wahlster ed., 2006) ("SmartKom")
C-6	*User Models in Dialog Systems*, Springer-Verlag (Kobsa & Wahlster eds., 1989) ("Kobsa")
C-7	U.S. Patent App. Pub. No. 2004/0101198 ("Barbara")
C-8	U.S. Patent App. Pub. No. 2002/0173960 ("Ross")
C-9	U.S. Patent App. Pub. No. 2004/0193420 A1 ("Kennewick")
C-10	*Spoken Language Processing: A Guide to Theory, Algorithm, and System Development*, Xuedong Huang et al. (2000) ("Huang")
C-11	U.S. Patent App. Pub. No. 2005/0033582 A1 ("Gadd")
C-12	US Patent No. 2002/0133347 A1 ("Schoneburg")
C-13	U.S. Patent No. 6,839,896 B2 ("Coffman")
C-14	U.S. Patent App. Pub. No. 2003/0182123 ("Mitsuyoshi")
C-15	U.S. Patent No. 6,757,362 ("Cooper")
C-16	*A Distributed Architecture for Cooperative Spoken Dialogue Agents with Coherent Dialogue State and History*, Bor-Shen Lin et al. (1999) ("Lin")
C-17	U.S. Patent No. 8,775,459 ("Houck")
C-18	*Recognition Confidence Scoring and Its Use in Speech Understanding Systems*, Timothy J. Hazen (Academic Press, 2002) ("Hazen")

Appendix	Prior Art Reference
C-19	International Publication No. WO 2006/016307 ("Portele")
C-20	*A Personalized System for Conversational Recommendation*, Cynthia Thompson et al. ("Thompson")
C-21	U.S. Patent No. 6,144,989 ("Hodjat I")
C-22	U.S. Patent No. 7,558,731 ("Hodjat II")
C-23	U.S. Patent Application No. 2002/0065651 ("Kellner")
C-24	"MIT Galaxy" system
C-24A	MIT Galaxy source code
C-25	Systems subject to further discovery
C-26	Nuance Voice Platform System
C-27	ScanSoft United System
C-28	SpeechWorks MINT System
C-29	HeyAnita
C-30	Cybermind System
C-31	TellMe System
C-32	Microsoft MiPad System
C-33	Tel@go
C-34	Verbomil
C-35	GyrusLogic

The prior art identified above, and in Appendices C-1–C-35 individually anticipate and/or can be properly combined in multiple ways to demonstrate the obviousness of the Asserted Claims of the '699 patent. Various combinations of the references would have naturally been considered as part of the exercise of ordinary skill by one skilled in the art. The references disclosed in the

attached charts and herein are also directed to the same or similar features as the purported invention claimed in the Asserted Claims of the ’699 patent. To the extent Plaintiff contends that any of these features solved a problem in the art, the references cited herein show that that problem was known to those of ordinary skill and had already been solved using obvious solutions.

To that end, the Asserted Claims of the ’699 patent simply combine elements already combined and well known in the art and yield no more than what one skilled in the art would have expected from such a combination. For example, with respect to the ’699 patent, when confronted with the alleged problems described in the ’699 patent, one of ordinary skill in the art at the time of the alleged inventions would have been motivated to consider the techniques taught by the prior art cited in these Invalidity Contentions. Consideration of the teachings of this prior art, both individually and in combination, would necessarily lead to the alleged invention claimed in the ’699 patent. This is demonstrated by the cited prior art, which disclose all of the elements of the Asserted Claims of the ’699 patent, as well as motivations to modify or combine their individual teachings. One of skill in the art would have been motivated to either modify the prior art identified in the claim charts or to combine that prior art in the manner indicated, by, for example, their background knowledge, design incentives, effects of demands known to the design community, or other market forces. Moreover, the cited prior art share commonalities. To the extent it is argued that any cited prior art does not expressly disclose a particular claim or element, it would have been inherent in the disclosure and/or obvious to a person of ordinary skill in the art to include the claimed element to perform the invention as claimed in the ’699 patent.

As described in the attached charts, all the elements of the Asserted Claims of the ’699 patent were commonplace before the alleged date of inventions. For each element, there exists evidence from the cited prior art that it was well known in the art prior to the date of invention. To

the extent it is argued any of the cited prior art references, systems, and/or products do not anticipate the Asserted Claims, it would have been obvious to a person of ordinary skill in the art that the Asserted Claims are merely combinations of well-known methods and systems resulting in expected results.

Additionally, Samsung hereby incorporates by reference the motivations to combine references set forth during the prosecution of the Asserted Claims of the ’699 patent, including the statements and reasoning set forth by the examiner, as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims of the ’699 patent.

In addition to contending that the ’699 patent Asserted Claims are invalid in view of the prior art references cited in the claim charts of Appendices C-1–C-35, Samsung further contends that the ’699 patent Asserted Claims are invalid as anticipated and/or obvious under U.S.C. §§ 102 and/or 103 in view of public knowledge and uses and/or offers for sale of products and services related to the subject matter of the cited references. As discovery is ongoing, Samsung continues to investigate these items and to reserve the right to amend or supplement these contentions to include additional information or documents regarding such products and/or systems. In addition to contending that the ’699 patent Asserted Claims are invalid in view of the explicit disclosures of the prior art references cited in the claim charts of Appendices C-1–C-35, Samsung further contends that the knowledge of skill evidenced by those references render those claims invalid. Samsung further contends that, even if a prior art reference does not expressly disclose all limitations as arranged or combined in the same manner as an asserted claim, a skilled artisan reading the reference would at once envisage the claimed arrangement or combination. *See, e.g., Kennametal Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015).

Samsung's reference to a particular device or product in the claim charts of Appendices C-1–C-35 should be interpreted alternatively as both a reference to the product itself and to any corresponding patents, publications, or product literature cited in the claim charts that relate to the cited device or product. In addition, Samsung may rely on other documents or things that have not yet been located to support its contentions regarding such prior art device(s) or product(s) that are referenced in the charts.

Where Samsung identifies a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure, as well as any text relating to the figure in addition to the figure itself. Similarly, where an identified portion of text refers to a figure, embodiment, or other material, the identification should be understood to include the referenced figure, embodiment, or other material as well. Consistent with P.R. 3-3(c), Samsung's citations to specific statements, figures, or disclosures in a prior art reference are sufficient to put Plaintiff on notice where each element of each Asserted Claim is found in the prior art. However, it should be recognized that a person of ordinary skill in the art would generally read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field. To understand and interpret any specific statement or disclosure in a prior art reference, a person of ordinary skill in the art would have relied upon other information including other publications and general scientific or engineering knowledge. Samsung therefore reserves the right to rely upon other unidentified portions of the prior art references and on other publications and expert testimony to provide context and to aid understanding and interpretation of the identified portions.

Samsung also reserves the right to rely upon other portions of the prior art references, other publications, and the testimony of experts to establish that the alleged inventions would have been

obvious to a person of ordinary skill in the art, including the basis of modifying or combining certain cited references. To the extent any limitation is deemed not to be exactly met by an item of prior art, then any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time(s) of the alleged invention, in view of the state of the art and knowledge of those skilled in the art. To the extent that an element of an Asserted Claim is not anticipated, the claim is rendered obvious by combination with one or more other prior art references identified in the invalidity claim charts.

Samsung further identifies and hereby incorporates by reference as if set forth fully herein the prior art references and invalidity contentions as described in any Other Proceedings wherein invalidity contentions have been, or will be, provided regarding the Asserted Patents, their foreign counterparts, or any parent or child patent of the Asserted Patents. Samsung reserves the right to use any and all portions of the publications, related publications, commercial embodiments of the publications, and other evidence that is discovered in these lawsuits to demonstrate and/or evidence the components, functionality, and capabilities of the devices and systems disclosed in the references charted.

4. The ’765 Patent

The Asserted Claims of the ’765 patent are anticipated and/or rendered obvious by prior art. Pursuant to P.R. 3-3(a), Samsung identifies the prior art references that anticipate or render obvious the Asserted Claims in the claim charts at Appendices D-1–D-5, which are incorporated as if fully set forth herein. The claim charts of Appendices D-1–D-5 show how these prior art references teach or suggest each and every element of the ’765 patent Asserted Claims. For each reference or combination of references suggested by each chart and/or herein, Samsung indicates whether the prior art renders the claim anticipated and/or obvious pursuant to P.R. 3-3(b).

Appendix	Prior Art Reference
D-1	Systems Subject to Further Discovery
D-2	U.S. Patent App. Pub. No. 2004/0083092 ("Valles")
D-3	*Spoken Dialogue Technology*, Michael McTear ("McTear")
D-4	*Goal-Oriented Multimedia Dialogue with Variable Initiative*, Alan W. Biermann et al. ("Biermann")
D-5	GyrusLogic

Pursuant to P.R. 3-3(a), Samsung further identifies additional prior art references that anticipate or render obvious the Asserted Claims in IPR No. IPR2025-00868, filed on April 25, 2025. Samsung attaches and incorporates IPR No. IPR2025-00868, including the petition (Appendix D-6A) and expert declaration of Stuart Lipoff (Appendix D-6B), as if fully set forth herein. IPR No. IPR2025-00868 shows how the prior art references identified in the table below teach or suggest each and every element of the Asserted Claims of the '765 Patent. For each reference or combination of references suggested by each chart and/or herein, Samsung indicates whether the prior art renders the claim anticipated and/or obvious pursuant to P.R. 3-3(b).

Prior Art References Charted in IPR No. IPR2025-00868

Ronnie. W. Smith, et al., *An Architecture for Voice Dialog Systems Based on Prolog-Style Theorem Proving*, 21(3) Computational Linguistics 281 (1995) ("Smith & Hipp")
Curry I. Guinn, *Mechanisms for Mixed-Initiative Human-Computer Collaborative Discourse*, Proceedings of the 34th Annual Meeting of the Association for Computational (1996) ("Guinn")

The prior art identified above, and in Appendices D-1–D-5 and in IPR No. IPR2025-00866, individually anticipate and/or can be properly combined in multiple ways to demonstrate the obviousness of the Asserted Claims of the '765 patent. Various combinations of the references

would have naturally been considered as part of the exercise of ordinary skill by one skilled in the art. The references disclosed in the attached charts and IPR petition and expert declaration, and herein are also directed to the same or similar features as the purported invention claimed in the Asserted Claims of the ’765 patent. To the extent Plaintiff contends that any of these features solved a problem in the art, the references cited herein show that that problem was known to those of ordinary skill and had already been solved using obvious solutions.

To that end, the Asserted Claims of the ’765 patent simply combine elements already combined and well known in the art and yield no more than what one skilled in the art would have expected from such a combination. For example, with respect to the ’765 patent, when confronted with the alleged problems described in the ’765 patent, one of ordinary skill in the art at the time of the alleged inventions would have been motivated to consider the techniques taught by the prior art cited in these Invalidity Contentions. Consideration of the teachings of this prior art, both individually and in combination, would necessarily lead to the alleged invention claimed in the ’765 patent. This is demonstrated by the cited prior art, which disclose all of the elements of the Asserted Claims of the ’765 patent, as well as motivations to modify or combine their individual teachings. One of skill in the art would have been motivated to either modify the prior art identified in the claim charts or to combine that prior art in the manner indicated, by, for example, their background knowledge, design incentives, effects of demands known to the design community, or other market forces. Moreover, the cited prior art share commonalities. To the extent it is argued that any cited prior art does not expressly disclose a particular claim or element, it would have been inherent in the disclosure and/or obvious to a person of ordinary skill in the art to include the claimed element to perform the invention as claimed in the ’765 patent.

As described in the attached charts and the attached IPR petition and expert declaration, all the elements of the Asserted Claims of the ’765 patent were commonplace before the alleged date of inventions. For each element, there exists evidence from the cited prior art that it was well known in the art prior to the date of invention. To the extent it is argued any of the cited prior art references, systems, and/or products do not anticipate the Asserted Claims, it would have been obvious to a person of ordinary skill in the art that the Asserted Claims are merely combinations of well-known methods and systems resulting in expected results.

Additionally, Samsung hereby incorporates by reference the motivations to combine references set forth during the prosecution of the Asserted Claims of the ’765 patent, including the statements and reasoning set forth by the examiner, as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims of the ’765 patent.

In addition to contending that the ’765 patent Asserted Claims are invalid in view of the prior art references cited in the claim charts of Appendices D-1–D-5 and IPR No. IPR2025-00868, Samsung further contends that the ’765 patent Asserted Claims are invalid as anticipated and/or obvious under U.S.C. §§ 102 and/or 103 in view of public knowledge and uses and/or offers for sale of products and services related to the subject matter of the cited references. As discovery is ongoing, Samsung continues to investigate these items and to reserve the right to amend or supplement these contentions to include additional information or documents regarding such products and/or systems. In addition to contending that the ’765 patent Asserted Claims are invalid in view of the explicit disclosures of the prior art references cited in the claim charts of Appendices D-1–D-5 and IPR No. IPR2025-00868, Samsung further contends that the knowledge of skill evidenced by those references render those claims invalid. Samsung further contends that, even if a prior art reference does not expressly disclose all limitations as arranged or combined in the same

manner as an asserted claim, a skilled artisan reading the reference would at once envisage the claimed arrangement or combination. *See, e.g., Kennametal Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015).

Samsung's reference to a particular device or product in the claim charts of Appendices D-1–D-5 and IPR No. IPR2025-00868 should be interpreted alternatively as both a reference to the product itself and to any corresponding patents, publications, or product literature cited in the claim charts that relate to the cited device or product. In addition, Samsung may rely on other documents or things that have not yet been located to support its contentions regarding such prior art device(s) or product(s) that are referenced in the charts.

Where Samsung identifies a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure, as well as any text relating to the figure in addition to the figure itself. Similarly, where an identified portion of text refers to a figure, embodiment, or other material, the identification should be understood to include the referenced figure, embodiment, or other material as well. Consistent with P.R. 3-3(c), Samsung's citations to specific statements, figures, or disclosures in a prior art reference are sufficient to put Plaintiff on notice where each element of each Asserted Claim is found in the prior art. However, it should be recognized that a person of ordinary skill in the art would generally read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field. To understand and interpret any specific statement or disclosure in a prior art reference, a person of ordinary skill in the art would have relied upon other information including other publications and general scientific or engineering knowledge. Samsung therefore reserves the right to rely upon other unidentified portions of the prior art references and on other

publications and expert testimony to provide context and to aid understanding and interpretation of the identified portions.

Samsung also reserves the right to rely upon other portions of the prior art references, other publications, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art, including the basis of modifying or combining certain cited references. To the extent any limitation is deemed not to be exactly met by an item of prior art, then any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time(s) of the alleged invention, in view of the state of the art and knowledge of those skilled in the art. To the extent that an element of an Asserted Claim is not anticipated, the claim is rendered obvious by combination with one or more other prior art references identified in the invalidity claim charts.

Samsung further identifies and hereby incorporates by reference as if set forth fully herein the prior art references and invalidity contentions as described in any Other Proceedings wherein invalidity contentions have been, or will be, provided regarding the Asserted Patents, their foreign counterparts, or any parent or child patent of the Asserted Patents. Samsung reserves the right to use any and all portions of the publications, related publications, commercial embodiments of the publications, and other evidence that is discovered in these lawsuits to demonstrate and/or evidence the components, functionality, and capabilities of the devices and systems disclosed in the references charted.

5. The ’176 Patent

The Asserted Claims of the ’176 patent are anticipated and/or rendered obvious by prior art. Pursuant to P.R. 3-3(a), Samsung identifies the prior art references that anticipate or render obvious the Asserted Claims in the claim charts Appendices E-1–E-32, which are hereby incorporated by reference as if fully set forth herein. The claim charts of Appendices E-1–E-32

show how these prior art references teach or suggest each and every element of the ’176 patent Asserted Claims. For each reference or combination of references suggested by each chart and/or herein, Samsung indicates whether the prior art renders the claim anticipated and/or obvious pursuant to P.R. 3-3(b).

Appendix	**Prior Art Reference**
E-1	U.S. Patent No. 8,090,082 (“Gilbert”)
E-2	U.S. Patent App. Pub. No. 2004/0193420 A1 (“Kennewick”)
E-3	Japanese Patent Publication No: 2002-297626 (“Yonebayashi”)
E-4	*Spoken Language Processing: A Guide to Theory, Algorithm, and System Development*, Xuedong Huang et al. (2000) (“Huang”)
E-5	U.S. Patent App. Pub. No. 2003/0078779 (“Desai”)
E-6	U.S. Patent No. 6,859,776 (“Cohen”)
E-7	U.S. Patent No. 7,376,586 (“Partovi”)
E-8	U.S. Patent No. 6,173,250 (“Jong”)
E-9	U.S. Patent No. 5,712,957 (“Waibel”)
E-10	U.S. Patent App. Pub. No. 2005/0033582 A1 (“Gadd”)
E-11	U.S. Patent App. Pub. No. 2004/0215449 (“Roy”)
E-12	European Patent No. 1333650 (“Salmenkaita”)
E-13	U.S. Patent No. 5,915,001 (“Uppaluru”)
E-14	U.S. Patent App. Pub. No. 2004/0006478 (“Alpdemir”)
E-15	U.S. Patent No. 7,519,534 (“Maddux”)
E-16	U.S. Patent No. 8,005,680 (“Kommer”)
E-17	U.S. Patent No. 6,430,531 (“Polish”)
E-18	U.S. Patent No. 6,144,989 (“Hodjat I”)

Appendix	Prior Art Reference
E-19	U.S. Patent No. 7,231,343 ("Treadgold")
E-20	U.S. Patent App. Pub. No. 2006/0020461 ("Ogawa")
E-21	U.S. Patent No. 6,327,566 ("Vanbuskirk")
E-22	U.S. Patent App. Pub. No. 2005/0234779 ("Chiu")
E-23	"MIT Galaxy" system
E-23A	MIT Galaxy source code
E-24B	MIT Voyager
E-23C	MIT Galaxy Video
E-23D	Orion
E-23E	MIT Flight Browser
E-23F	AMT Mobile Speech Task
E-23G	Weather Query
E-24	Nuance Voice Platform System
E-25	ScanSoft United System
E-26	SpeechWorks MINT System
E-27	HeyAnita
E-28	Cybermind System
E-29	TellMe System
E-30	Microsoft MiPad System
E-31	GyrusLogic
E-32	U.S. Patent App. Pub. No. 2005/0080775 ("Colledge")

Pursuant to P.R. 3-3(a), Samsung further identifies additional prior art references that anticipate or render obvious the Asserted Claims in IPR No. IPR2025-00867, filed on April 16,

2025. Samsung attaches and incorporates IPR No. IPR2025-00867, including the petition (Appendix E-33A) and expert declaration of Stuart Lipoff (Appendix E-33B), as if fully set forth herein. IPR No. IPR2025-00867 shows how the prior art references identified in the table below teach or suggest each and every element of the Asserted Claims of the ’176 Patent. For each reference or combination of references suggested by each chart and/or herein, Samsung indicates whether the prior art renders the claim anticipated and/or obvious pursuant to P.R. 3-3(b).

Prior Art References Charted in IPR No. IPR2025-00867

International Publication No. WO2004/055781 (“Taschereau”)
U.S. Patent No. 5,640,490 (“Hansen”)
U.S. Patent App. Pub. No. 2010/0125458 (“Franco”)
U.S. Patent App. Pub. No. 2007/0174258 (“Jones”)
U.S. Patent No. 7,577,665 (“Ramer”)
U.S. Patent No. 8,332,218 (“Cross”)

The prior art identified above, and in Appendices E-1–E-32 and in IPR No. IPR2025-00867, individually anticipate and/or can be properly combined in multiple ways to demonstrate the obviousness of the Asserted Claims of the ’176 patent. Various combinations of the references would have naturally been considered as part of the exercise of ordinary skill by one skilled in the art. The references disclosed in the attached charts and IPR petition and expert declaration, and herein are also directed to the same or similar features as the purported invention claimed in the Asserted Claims of the ’176 patent. To the extent Plaintiff contends that any of these features solved a problem in the art, the references cited herein show that that problem was known to those of ordinary skill and had already been solved using obvious solutions.

To that end, the Asserted Claims of the ’176 patent simply combine elements already combined and well known in the art and yield no more than what one skilled in the art would have expected from such a combination. For example, with respect to the ’176 patent, when confronted with the alleged problems described in the ’176 patent, one of ordinary skill in the art at the time of the alleged inventions would have been motivated to consider the techniques taught by the prior art cited in these Invalidity Contentions. Consideration of the teachings of this prior art, both individually and in combination, would necessarily lead to the alleged invention claimed in the ’176 patent. This is demonstrated by the cited prior art, which disclose all of the elements of the Asserted Claims of the ’176 patent, as well as motivations to modify or combine their individual teachings. One of skill in the art would have been motivated to either modify the prior art identified in the claim charts or to combine that prior art in the manner indicated, by, for example, their background knowledge, design incentives, effects of demands known to the design community, or other market forces. Moreover, the cited prior art share commonalities. To the extent it is argued that any cited prior art does not expressly disclose a particular claim or element, it would have been inherent in the disclosure and/or obvious to a person of ordinary skill in the art to include the claimed element to perform the invention as claimed in the ’176 patent.

As described in the attached charts and the attached IPR petition and expert declaration, all the elements of the Asserted Claims of the ’176 patent were commonplace before the alleged date of inventions. For each element, there exists evidence from the cited prior art that it was well known in the art prior to the date of invention. To the extent it is argued any of the cited prior art references, systems, and/or products do not anticipate the Asserted Claims, it would have been obvious to a person of ordinary skill in the art that the Asserted Claims are merely combinations of well-known methods and systems resulting in expected results.

Additionally, Samsung hereby incorporates by reference the motivations to combine references set forth during the prosecution of the Asserted Claims of the ’176 patent, including the statements and reasoning set forth by the examiner, as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims of the ’176 patent.

In addition to contending that the ’176 patent Asserted Claims are invalid in view of the prior art references cited in the claim charts of Appendices E-1–E-32 and IPR No. IPR2025-00867, Samsung further contends that the ’176 patent Asserted Claims are invalid as anticipated and/or obvious under U.S.C. §§ 102 and/or 103 in view of public knowledge and uses and/or offers for sale of products and services related to the subject matter of the cited references. As discovery is ongoing, Samsung continues to investigate these items and to reserve the right to amend or supplement these contentions to include additional information or documents regarding such products and/or systems. In addition to contending that the ’176 patent Asserted Claims are invalid in view of the explicit disclosures of the prior art references cited in the claim charts of Appendices E-1–E-32 and IPR No. IPR2025-00867, Samsung further contends that the knowledge of skill evidenced by those references render those claims invalid. Samsung further contends that, even if a prior art reference does not expressly disclose all limitations as arranged or combined in the same manner as an asserted claim, a skilled artisan reading the reference would at once envisage the claimed arrangement or combination. *See, e.g., Kennametal Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015).

Samsung’s reference to a particular device or product in the claim charts of Appendices E-1–E-32 and IPR No. IPR2025-00867 should be interpreted alternatively as both a reference to the product itself and to any corresponding patents, publications, or product literature cited in the claim charts that relate to the cited device or product. In addition, Samsung may rely on other documents

or things that have not yet been located to support its contentions regarding such prior art device(s) or product(s) that are referenced in the charts.

Where Samsung identifies a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure, as well as any text relating to the figure in addition to the figure itself. Similarly, where an identified portion of text refers to a figure, embodiment, or other material, the identification should be understood to include the referenced figure, embodiment, or other material as well. Consistent with P.R. 3-3(c), Samsung's citations to specific statements, figures, or disclosures in a prior art reference are sufficient to put Plaintiff on notice where each element of each Asserted Claim is found in the prior art. However, it should be recognized that a person of ordinary skill in the art would generally read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field. To understand and interpret any specific statement or disclosure in a prior art reference, a person of ordinary skill in the art would have relied upon other information including other publications and general scientific or engineering knowledge. Samsung therefore reserves the right to rely upon other unidentified portions of the prior art references and on other publications and expert testimony to provide context and to aid understanding and interpretation of the identified portions.

Samsung also reserves the right to rely upon other portions of the prior art references, other publications, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art, including the basis of modifying or combining certain cited references. To the extent any limitation is deemed not to be exactly met by an item of prior art, then any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time(s) of the alleged invention, in view of the

state of the art and knowledge of those skilled in the art. To the extent that an element of an Asserted Claim is not anticipated, the claim is rendered obvious by combination with one or more other prior art references identified in the invalidity claim charts.

Samsung further identifies and hereby incorporates by reference as if set forth fully herein the prior art references and invalidity contentions as described in any Other Proceedings wherein invalidity contentions have been, or will be, provided regarding the Asserted Patents, their foreign counterparts, or any parent or child patent of the Asserted Patents. Samsung reserves the right to use any and all portions of the publications, related publications, commercial embodiments of the publications, and other evidence that is discovered in these lawsuits to demonstrate and/or evidence the components, functionality, and capabilities of the devices and systems disclosed in the references charted.

6. The ’536 Patent

The Asserted Claims of the ’536 patent are anticipated and/or rendered obvious by prior art. Pursuant to P.R. 3-3(a), Samsung identifies the prior art references that anticipate or render obvious the Asserted Claims in the claim charts Appendices F-1–F-32, which are hereby incorporated by reference as if fully set forth herein. The claim charts of Appendices F-1–F-32 show how these prior art references teach or suggest each and every element of the ’536 patent Asserted Claims. For each reference or combination of references suggested by each chart and/or herein, Samsung indicates whether the prior art renders the claim anticipated and/or obvious pursuant to P.R. 3-3(b).

Appendix	Prior Art Reference
F-1	U.S. Patent App. Pub. No. 2007/0239531 (“Beaufays”)
F-2	U.S. Patent App. Pub. No. 2005/0288935 A1 (“Lee”)

Appendix	Prior Art Reference
F-3	U.S. Patent App. Pub. No. 2004/0193420 A1 ("Kennewick")
F-4	Japanese Patent Publication No: 2002-297626 ("Yonebayashi")
F-5	*Spoken Language Processing: A Guide to Theory, Algorithm, and System Development*, Xuedong Huang et al. (2000) ("Huang")
F-6	U.S. Patent App. Pub. No. 2003/0078779 ("Desai")
F-7	U.S. Patent No. 6,859,776 ("Cohen")
F-8	U.S. Patent No. 7,376,586 ("Partovi")
F-9	*A Distributed Architecture for Cooperative Spoken Dialogue Agents with Coherent Dialogue State and History*, Bor-Shen Lin et al. (1999) ("Lin")
F-10	U.S. Patent No. 5,712,957 ("Waibel")
F-11	U.S. Patent App. Pub. No. 2005/0033582 A1 ("Gadd")
F-12	U.S. Patent No. 6,839,896 B2 ("Coffman")
F-13	U.S. Patent No. 6,526,335 B1 ("Treyz")
F-14	International Publication No. WO 2006/016307 ("Portele")
F-15	U.S. Patent App. Pub. No. 2004/0006478 ("Alpdemir")
F-16	U.S. Patent No. 7,519,534 ("Maddux")
F-17	U.S. Patent No. 8,005,680 ("Kommer")
F-18	U.S. Patent No. 6,430,531 ("Polish")
F-19	U.S. Patent No. 6,144,989 ("Hodjat I")
F-20	U.S. Patent No. 7,231,343 ("Treadgold")
F-21	U.S. Patent No. 7,558,731 ("Hodjat II")
F-22	*SesaME: A Framework for Personalised and Adaptive Speech Interfaces,* Botond Pakucs (2003) ("Pakucs")
F-23	MIT Galaxy
F-24	MIT Galaxy Source Code

Appendix	Prior Art Reference
F-25	Systems Subject to Further Discovery
F-26	Nuance Voice Platform System
F-27	ScanSoft United System
F-28	SpeechWorks MINT System
F-29	HeyAnita
F-30	Cybermind System
F-31	TellMe System
F-32	Microsoft MiPad System

Pursuant to P.R. 3-3(a), Samsung further identifies additional prior art references that anticipate or render obvious the Asserted Claims in IPR No. IPR2025-00869, filed on April 21, 2025. Samsung attaches and incorporates IPR No. IPR2025-00869, including the petition (Appendix F-33A) and expert declaration of Stuart Lipoff (Appendix F-33B), as if fully set forth herein. IPR No. IPR2025-00869 shows how the prior art references identified in the table below teach or suggest each and every element of the Asserted Claims of the ’536 Patent. For each reference or combination of references suggested by each chart and/or herein, Samsung indicates whether the prior art renders the claim anticipated and/or obvious pursuant to P.R. 3-3(b).

Prior Art References Charted in IPR No. IPR2025-00867

U.S. Patent App. Pub. No. 2005/0278180 (“O’Neill”)
U.S. Patent App. Pub. No. 2007/0174258 (“Jones”)
U.S. Patent App. Pub. No. 2010/0125458 (“Franco”)
U.S. Patent No. 7,609,829 (“Wang”)
U.S. Patent No. 6,513,006 (“Howard”)

The prior art identified above, and in Appendices F-1–F-32 and in IPR No. IPR2025-00869, individually anticipate and/or can be properly combined in multiple ways to demonstrate the obviousness of the Asserted Claims of the ’536 patent. Various combinations of the references would have naturally been considered as part of the exercise of ordinary skill by one skilled in the art. The references disclosed in the attached charts and IPR petition and expert declaration, and herein are also directed to the same or similar features as the purported invention claimed in the Asserted Claims of the ’536 patent. To the extent Plaintiff contends that any of these features solved a problem in the art, the references cited herein show that that problem was known to those of ordinary skill and had already been solved using obvious solutions.

To that end, the Asserted Claims of the ’536 patent simply combine elements already combined and well known in the art and yield no more than what one skilled in the art would have expected from such a combination. For example, with respect to the ’536 patent, when confronted with the alleged problems described in the ’536 patent, one of ordinary skill in the art at the time of the alleged inventions would have been motivated to consider the techniques taught by the prior art cited in these Invalidity Contentions. Consideration of the teachings of this prior art, both individually and in combination, would necessarily lead to the alleged invention claimed in the ’536 patent. This is demonstrated by the cited prior art, which disclose all of the elements of the Asserted Claims of the ’536 patent, as well as motivations to modify or combine their individual teachings. One of skill in the art would have been motivated to either modify the prior art identified in the claim charts or to combine that prior art in the manner indicated, by, for example, their background knowledge, design incentives, effects of demands known to the design community, or other market forces. Moreover, the cited prior art share commonalities. To the extent it is argued that any cited prior art does not expressly disclose a particular claim or element, it would have

been inherent in the disclosure and/or obvious to a person of ordinary skill in the art to include the claimed element to perform the invention as claimed in the ’536 patent.

As described in the attached charts and the attached IPR petition and expert declaration, all the elements of the Asserted Claims of the ’536 patent were commonplace before the alleged date of inventions. For each element, there exists evidence from the cited prior art that it was well known in the art prior to the date of invention. To the extent it is argued any of the cited prior art references, systems, and/or products do not anticipate the Asserted Claims, it would have been obvious to a person of ordinary skill in the art that the Asserted Claims are merely combinations of well-known methods and systems resulting in expected results.

Additionally, Samsung hereby incorporates by reference the motivations to combine references set forth during the prosecution of the Asserted Claims of the ’536 patent, including the statements and reasoning set forth by the examiner, as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims of the ’536 patent.

In addition to contending that the ’536 patent Asserted Claims are invalid in view of the prior art references cited in the claim charts of Appendices F-1–F-32 and IPR No. IPR2025-00869, Samsung further contends that the ’536 patent Asserted Claims are invalid as anticipated and/or obvious under U.S.C. §§ 102 and/or 103 in view of public knowledge and uses and/or offers for sale of products and services related to the subject matter of the cited references. As discovery is ongoing, Samsung continues to investigate these items and to reserve the right to amend or supplement these contentions to include additional information or documents regarding such products and/or systems. In addition to contending that the ’536 patent Asserted Claims are invalid in view of the explicit disclosures of the prior art references cited in the claim charts of Appendices F-1–F-32 and IPR No. IPR2025-00869, Samsung further contends that the knowledge of skill

evidenced by those references render those claims invalid. Samsung further contends that, even if a prior art reference does not expressly disclose all limitations as arranged or combined in the same manner as an asserted claim, a skilled artisan reading the reference would at once envisage the claimed arrangement or combination. *See, e.g., Kennametal Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015).

Samsung's reference to a particular device or product in the claim charts of Appendices F-1–F-32 and IPR No. IPR2025-00869 should be interpreted alternatively as both a reference to the product itself and to any corresponding patents, publications, or product literature cited in the claim charts that relate to the cited device or product. In addition, Samsung may rely on other documents or things that have not yet been located to support its contentions regarding such prior art device(s) or product(s) that are referenced in the charts.

Where Samsung identifies a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure, as well as any text relating to the figure in addition to the figure itself. Similarly, where an identified portion of text refers to a figure, embodiment, or other material, the identification should be understood to include the referenced figure, embodiment, or other material as well. Consistent with P.R. 3-3(c), Samsung's citations to specific statements, figures, or disclosures in a prior art reference are sufficient to put Plaintiff on notice where each element of each Asserted Claim is found in the prior art. However, it should be recognized that a person of ordinary skill in the art would generally read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field. To understand and interpret any specific statement or disclosure in a prior art reference, a person of ordinary skill in the art would have relied upon other information including other publications and general scientific or engineering knowledge. Samsung therefore

reserves the right to rely upon other unidentified portions of the prior art references and on other publications and expert testimony to provide context and to aid understanding and interpretation of the identified portions.

Samsung also reserves the right to rely upon other portions of the prior art references, other publications, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art, including the basis of modifying or combining certain cited references. To the extent any limitation is deemed not to be exactly met by an item of prior art, then any purported differences are such that the claimed subject matter as a whole would have been obvious to one skilled in the art at the time(s) of the alleged invention, in view of the state of the art and knowledge of those skilled in the art. To the extent that an element of an Asserted Claim is not anticipated, the claim is rendered obvious by combination with one or more other prior art references identified in the invalidity claim charts.

Samsung further identifies and hereby incorporates by reference as if set forth fully herein the prior art references and invalidity contentions as described in any Other Proceedings wherein invalidity contentions have been, or will be, provided regarding the Asserted Patents, their foreign counterparts, or any parent or child patent of the Asserted Patents. Samsung reserves the right to use any and all portions of the publications, related publications, commercial embodiments of the publications, and other evidence that is discovered in these lawsuits to demonstrate and/or evidence the components, functionality, and capabilities of the devices and systems disclosed in the references charted.

B. Invalidity Under 35 U.S.C. § 103 – Obviousness

In addition to being anticipated under Plaintiff's apparent claim constructions, the Asserted Claims are invalid as obvious under 35 U.S.C. § 103. To the extent any claim is not anticipated, it is nevertheless invalid as obvious. The same teachings identified for anticipation also render the

claims obvious, either alone or in combination with other references cited in the Invalidity Claim Charts, which are incorporated herein by reference. 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 known elements 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, Samsung asserts that any charted or incorporated reference in combination with one or more other charted or incorporated references renders the Asserted Claims obvious.

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." 550 U.S. 398, 416 (2007); *see also id*. at 417 ("[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 427. 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 417.

Moreover, the Supreme Court recognizes that market pressures will motivate a person of ordinary skill to survey known art for solutions to problems. *Id*. at 421 ("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 417. If a person of ordinary skill can implement a predictable variation, 35 U.S.C. § 103 bars its patentability. *Id*.

"[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1379 (Fed. Cir. 2023) (quoting *KSR*, 550 U.S. at 420). "Additionally, 'universal' motivations known in a particular field to improve technology provide 'a motivation to combine prior art references even absent any hint of suggestion in the references themselves.'" *Id*. (quoting *Intel Corp. v. Qualcomm Inc*., 21 F.4th 784, 797–99 (Fed. Cir. 2021)) (original emphasis). Thus, motivations to combine, as well as the general state of the art, may be found in a variety of places including, but not limited to, in the references defined above, and the specification of the Asserted Patents. A person of ordinary skill in the art at the time(s) of the alleged invention would have been motivated to combine any one piece of identified prior art with any other identified piece of prior art. For at least this reason, it would have been obvious to a person of skill in the art at the time(s) 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. Further reasons to combine the references identified in these charts include the nature of the problem being solved, the express, implied, and/or 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 similar methods and systems, 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.

The law does not require evidence of a specific motivation to combine prior art where the combination would yield expected results and at most simply represents a known alternative or design choice to one of skill in the art. *See Apple Inc. v. Samsung Elecs. Co*., 839 F.3d 1034, 1058 (Fed. Cir. 2016); *Intercontinental Great Brands LLC v. Kellogg N. Am. Co*., 869 F.3d 1336, 1344 (Fed. Cir. 2017); *KSR*, 550 U.S. at 415 (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test, and instead applying an "expansive and flexible" approach). Indeed, the Supreme Court held that a POSITA 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." *KSR*, 550 U.S. at 420–21.

Nevertheless, in addition to the information contained immediately above and elsewhere in these contentions, Samsung identifies additional motivations and reasons to combine. For example, in addition to the specific 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 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 have been motivated by considerations of efficiency, effectiveness, convenience, cost-savings, and accessibility, to combine the various teachings of the references. Additionally, one would have been motivated to address the alleged problems or achieve the

purported objectives identified in the Background sections of the Asserted Patents, of the references cited on the face of the Asserted Patents, and of the other references cited herein.

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, and/or methods used. Further, certain 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 ordinary 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.

Samsung 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. Samsung 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.

Moreover, Samsung reserves the right 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.

Additionally, Samsung notes that Plaintiff has neither provided any contention that secondary considerations of non-obviousness exist for any Asserted Patents nor provided any evidence of such secondary considerations. Plaintiff contends in response to Interrogatory No. 2 that it received an industry award. It also points out that the accused products and other purportedly infringing products on the market have been commercially successful; however, Plaintiff has not pointed to any evidence demonstrating that the accused products are commercially successful because of a nexus to the patented technology at issue in this case. This lack of evidence further renders the Asserted Claims obvious. Proving any such secondary considerations is Plaintiff's burden. *See, e.g., ZUP, LLC v. Nach Mfg., Inc.*, 896 F.3d 1365, 1373 (Fed. Cir. 2018) ("[A] patentee bears the burden of production with respect to evidence of secondary considerations of nonobviousness."). To the extent Plaintiff is permitted to introduce contentions and/or evidence concerning secondary considerations in the future, Samsung reserves all rights to rebut those contentions if and when Plaintiff identifies them. Moreover, Samsung further contends that, in any event, the evidence of obviousness for each asserted claim is so overwhelming that secondary considerations are necessarily insufficient to rebut Samsung's showing. *See, e.g., Ohio Willow Wood Co. v. Alps S., LLC*, 735 F.3d 1333, 1344 (Fed. Cir. 2013) ("[W]here a claimed invention represents no more than the predictable use of prior art elements according to established functions, as here, evidence of secondary indicia are frequently deemed inadequate to establish non-obviousness.").

The prior art references identified herein explicitly or implicitly refer to other prior art references, share common authors or inventors, were published in the same journals, presented at the same conferences, were presented as proposals to standards working groups, and/or were developed at common companies, schools, or organizations, all of which would motivate one of skill in the art to combine them. These references are also within the field of the Asserted Patents are directed to similar subject matter within that field. Additionally, any products, devices, and/or processes described in the references existed and/or were invented before or during the period in which the claimed inventions were developed, providing further motivation to combine them.

1. Obviousness Rationale and Motivations to Combine

Obviousness: 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 in Appendices A-1–A-33, B-1–B-37, C-1–C-35, D-1–D-5, E-1–E-32, and F-1–F-32, and IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-00869, along with the knowledge of one of ordinary skill in the art to meet the limitations of the Asserted Claims of the Asserted Patents. As a result, the references identified herein render one or more Asserted Claims of the Asserted Patents obvious when the references are read in combination with each other, and/or when read in view of the state of the art and knowledge of those skilled in the art. Each and every reference identified is also relevant to the state of the art at the time of the alleged invention. Any of the references disclosed above may be combined with one another to render obvious (and therefore invalid) each of the Asserted Claims. Samsung may rely upon a subset of the identified references or all of the references identified herein, including all references in Appendices A-1–A-33, B-1–B-37, C-1–C-35, D-1–D-5, E-1–E-32, and F-1–F-32, and IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-00869, for purposes of obviousness depending on the Court's claim

construction, positions taken by Plaintiff during this litigation, and further investigation and discovery.

Reservation of Rights: Moreover, as mentioned above, Samsung has not yet completed its search or discovery concerning additional prior art. As such, Samsung's inclusion of exemplary combinations does not preclude it from identifying other invalidating combinations as appropriate, and Samsung reserves the right to identify additional specific combinations as well as to detail and explain such combinations.

No More Than Ordinary Variations of Prior Art; No Unexpected Results: To the extent not anticipated, the Asserted Claims of the Asserted Patents represent no more than the result of ordinary variations of the prior art. Samsung further believes that no showing of a specific motivation to combine prior art is required to combine the references disclosed above and in the appended charts, as each combination of art would have no unexpected results, and at most would simply represent a known alternative to one of ordinary skill in the art. *See KSR*, 550 U.S. at 415–16 (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test, instead espousing an "expansive and flexible" approach); *Apple Inc. v. Samsung Elecs. Co*., 839 F.3d 1034, 1058 (Fed. Cir. 2016); *Intercontinental Great Brands LLC v. Kellogg N. Am. Co.*, 869 F.3d 1336, 1344 (Fed. Cir. 2017). Indeed, the Supreme Court has 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." *KSR*, 550 U.S. at 420–21. Nevertheless, in addition to the information contained elsewhere in these contentions, Samsung identifies motivations and reasons to combine the cited art.

Predictable Results; Obvious to Try: One or more combinations of the prior art references identified in Appendices A-1–A-33, B-1–B-37, C-1–C-35, D-1–D-5, E-1–E-32, and F-1–F-32, and IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-00869 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 herein would have been obvious because the combinations represent known potential options with a reasonable expectation of success.

Interrelated Teachings: 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 of the Asserted Patents; the existence of a known need or problem in the field of 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.

Same Area of Technology: Additionally, it would have been obvious to one of ordinary skill in the art to consult and/or combine any of the prior art listed in Appendices A-1–A-33, B-1–

B-37, C-1–C-35, D-1–D-5, E-1–E-32, and F-1–F-32, IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-00869; and Section III because all these prior art references relate to the same area of technology and/or are from analogous art. The Asserted Claims merely unite old elements, well known in the field, with no change in their respective function or result. 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.

Same Technical Issues: A person of ordinary skill would have been motivated to combine the above prior art based on his or her knowledge, the nature of the problem to be solved, and the teachings of the prior art. As described above, the identified prior art addresses the same or similar technical issues and suggests the same or similar solutions to those issues. Moreover, some of the prior art refers to or discusses other prior art, illustrating the close technical relationship among the prior art. For the Asserted Patents, one of ordinary skill in the art would have been motivated to combine known prior art solutions described in these references relating to content management for mobile communications systems and methods.

There are significant similarities in subject matter and objectives for each of many references used in these contentions for the Asserted Patents, as shown in Appendices A-1–A-33, B-1–B-37, C-1–C-35, D-1–D-5, E-1–E-32, and F-1–F-32, and IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-00869. Moreover, to the extent that any of these references includes a feature not expressly disclosed in one or more other references, a POSITA would have naturally looked to, and been motivated to combine, any one of these references with

one or more of the other references in order to better achieve their common goals of improving network communications. Further, a POSITA also would have naturally looked to and been motivated to combine any one of these references with one or more of the other references in order to better achieve their common goals of user friendliness.

In addition to the specific examples provided above, Samsung reserves the right to rely on the disclosures of the references identified in Appendices A-1–A-33, B-1–B-37, C-1–C-35, D-1–D-5, E-1–E-32, and F-1–F-32, and IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-00869, and Section III for additional motivations to combine. These examples of combinations are given merely to illustrate various motivations to combine and are not intended to provide an exhaustive list of every possible combination to which the motivation may apply. Samsung reserves the right to contend that the motivations to combine provided herein apply to other combinations at the appropriate time, e.g., in expert reports regarding invalidity. To the extent one or more of identified combinations is posed as a combination of only two references, it does not indicate that the two references that are being combined for one purpose could not be joined by a third reference (or more additional references) whose combination serves the same or a different purpose. Indeed, many of the features recited in the Asserted Claims are componentized features/functions whereby the feature could be implemented using teachings from another source while not interfering with additional features. For that reason, a POSITA may have reasonably looked to and been motivated to combine three or more references in order to achieve a specific outcome.

Summary of Motivations to Combine: Thus, the motivation to combine the teachings of the prior art references identified in Appendices A-1–A-33, B-1–B-37, C-1–C-35, D-1–D-5, E-1–E-32, and F-1–F-32; IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-

00869; and Section III, is 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.

Speech dialogue systems were well known and commercially available in fields such as telephone directory assistance/customer service, dictation, and voice assistance before the priority date. Many of these systems relied one, more or all of the following:

- **Speech Recognizer:** Software and hardware for converting the utterance to text.
- **Semantic Analyzer:** Interprets the text to understand meaning of the utterance.
- **Dialogue Manager:** Interprets the meaning of the utterance in broader context using, for instance, dialog history.
- **Response Generator:** Creates natural language replies.
- **Speech Synthesizer:** Converts the response into speech, and transmits it back to the user.

Further, these systems expressly incorporated context to facilitate interpretation of meaning through the dialog manager.

Likewise, commercially available systems had already been considering context to select appropriate ads in conjunction with speech recognition tools used to access information (e.g., directory assistance or searching the web).

The references listed in Section III and IV.A 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.[69]

a. Interactive Speech Prior Art

The asserted patents 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, Roushar, Lucente, Visel, Moller, Kobsa, Barbara, Ross, GyrusLogic, SmartKom, Kennewick, Yonebayashi, Jong, Colledge, Cohen, Potter, Treyz, Mitsuyoshi, Cooper, Partovi, Hao, Huang, Coffman, MIT Galaxy System, HeyAnita System, NVP System, United System, MINT System, Cybermind System, TellMe System, Microsoft MiPad System, Microsoft Speech Server System, Hazen I, Schoneburg, Gadd, Desai, Lin, Houck, Thompson, Dhawan, Lee, Kennewick II, Voisin, Roy, Salmenkaita, Uppaluru, Jong, Waibel, Alpdemir, Hartman, Maddux, Ogawa, Vanbuskirk, Chiu, Polish, Kommer, Quiroga, Selesky, Hodjat I, Hodjat II, Treadgold, Piotrowski, Pakucs, and Lin (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 allows users to interact with a system in a natural way that is consistent

[69] In *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), the Supreme Court held that prior art need not disclose the precise teachings of a patented invention to render it obvious, because a court "can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *Id.* at 418. Under *KSR*, an explanation for why a combination of prior art items renders a claim obvious may be found in the "interrelated teachings of multiple patents; 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." *Id.* at 418.

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.*, Lucente, 1:23-28 ("Disclosed is a bilateral speech system and method that allows effective communication between a person (a user) and a computer."); Visel at Abstract ("A method of emulating the human brain with its thought and rationalization processes is presented here, as well as a method of storing human-like thought. The invention provides for the inclusion of psychological profiles, experience, and societal position in an electronic emulation of the human brain. This permits a realistic human-like response by that emulation to the people and the interactive environment around it."); SmartKom, ¶138 (describing dialogue with a "conversational agent"); Ross ¶57 (creating conversational records for storing a dialog history between the user and system); (Kennewick, Abstract ("achiev[ing] a natural environment for one or more users making queries or commands in multiple domains. . . . speech based natural language query and response environment" "improv[es] the reliability of determining the context and presenting the expected results for a particular question or command"); Yonebayashi, ¶¶ [0002], [0003] (the "information presentation device" provides "advertisement only to interested users . . . [which] enhances the effect of advertising"); *id.* ¶ [0008] ("determine, from a keyword being uttered by a user, what the topic is related to and present an appropriate advertisement"); Huang, p. 7 ("interpret[ing] utterances in context and carry[ing] out appropriate actions" are fundamental requirements of spoken language understanding and "[k]knowledge of the characteristic vocabulary, typical syntactic patterns, and possible actions in any given application context for both interpretation of user utterance and planning system activity are the heart and soul of any

spoken language understanding system"); Cohen, 1:10-13, 3:32-42 (the "voice activated browser" "improv[es] a spoken dialog between a human user and a machine" and "reduce[s] the amount of information a user is required to provide a speech-enabled site during a spoken dialog, shortening the length of the dialog and reducing the audio cues necessary for conducting a transaction for presenting information"); Desai, ¶¶ [0021], [0049] (the "voice response system" enables "users to access information that is not originally formatted for audio interfacing" by "providing a voice interface to the Internet . . . allowing Internet and telephone users to access volumes of information, headline news, stock quotes, horoscopes, auctions, food delivery services, weather forecasts, sports scores, travel, shipping status, free integrated voice mail, and much more"); *id.* ¶¶ [0125], [0163], [0129] (HeyAnita "ask[s] relevant questions in order to determine user preferences and context," "takes into consideration all of the governing factors such as user preferences, user context, usage patterns and history to determine an end destination node for the user's request," and "[g]enerate[s] commercials based on user preferences, usage history patterns and context."); Partovi, Abstract, (the "voice portal" allows users to "identify a product and signal her/his purchase intentions with a single word, phrase, or touch-tone command"); Waibel, 1:16-31, 3:30-39 (the "speech recognition system" understands "spoken commands" and provides an improved "user friendly, natural method of correcting recognized speech"); *id.* 3:1-4 ("recognizing importance of providing features to make a speech interface "that is as natural and effective as in human to human communication"); Treyz, Abstract (the "automobile personal computer" "recognize[s] voice commands," provides "information on the goods or services available at a merchant while driving," and enables a user to "initiate a purchase transaction for those goods or services"); Alpdemir, 27:43-48 ("More recently, new technology supports spoken voice command and data in a system that provides voice recognition to interpret the electronic signal generated from the

spoken voice, interpret that signal, and convert that interpreted signal into one or more commands or data items that can be processed by the computer.");). Jong, 5:35-67 (disclosing a "speech recognition device 203" that identifies "phonemes (speech sounds)," "identif[ies] . . . word syllables that are correlated with the phonemes" and groups the "syllables that make up the various words . . . into the recognizable words"); Colledge, 4:61-62, 12:45-49, 13:6-11 (a natural language understanding system that identifies advertisements related to the context of a user's request using a machine learning classifier); Potter, 2:14-20 (disclosing a system that allows "users to control the computer using spoken phrases which are very similar in structure to the structure of a natural language the user may use in oral communication with another person); Mitsuyoshi, ¶ 66 ("the invention further includes: a voice recognition unit for recognizing the voice inputted from the voice inputting unit, and for outputting character information; and a natural language processing unit for subjecting vocal information recognized by the voice recognition unit to natural language processing, and for generating meaning information expressing a meaning of the inputted voice"); Cooper, 2:36-40 (disclosing "the present invention is a computer-based virtual assistant… comprising a voice user interface for inputting information into and receiving information from the virtual assistant by speech"); Schoneburg, ¶ 28 (disclosing "a universal dialog computer system for transforming a user's phrase presented in the form of a natural language utterance into an adequate response by the system which is also presented in natural language and accompanied by the performance of a number of required actions"); Roy, ¶ 11 (disclosing a "system and method of this invention provides a natural language speech recognition process allowing a machine to recognize human speech, conceptually analyze that speech so that the machine can "understand" it and provide an adequate response."); Salmenkaita, ¶ 19 (disclosing a "method and system for facilitating user access of services via a wireless device involve the combination of a service

recommendation engine with voice or speech recognition technology to provide a user with voice, speech or verbal . . . short-cuts to access preferred services, such as digital services, of the user."); Uppaluru, 3:31-35 ("The voice web system dynamically retrieves the suitable subset of training word patterns from the user's speech profile matching the voice navigation key words in the page being presented to the user."); Lin, Abstract (disclosing "a distributed architecture for cooperative spoken dialogue agents with high domain extensibility" in which "different spoken dialogue agents handling different domains can be developed independently, and cooperate with one another to respond to the user's requests"); Houck, 1:7-17 (disclosing "the interpretation of input by conversation systems" that "allow a user to interact with or search a database of information by receiving and responding to user data requests"); Thompson, p.394 (disclosing "a personalized conversational recommendation system" that uses "conversational natural language interfaces" to help people find destinations such as restaurants or other types of items); Partovi, 9:55-56, title (disclosing a system that "supports voice, or speech, recognition" for the purpose of "electronic commerce using a telephone interface"); Hao, 6:20-32 (disclosing a system that can receive "a shopping request in [] natural language" and "process the shopping request" using "speech recognition components"); Coffman, 6:60-63, 7:61-65, 27:13-20 (disclosing a system that receives "user input compris[ing] spoken utterances (voice command), interprets user intent using "NLU, transaction history, current context, etc.," and "generat[es] a message in an appropriate modality, if a message must be presented to a user"); Glass I, Abstract, § 1 (disclosing "a real-time telephone-based speech recognizer as part of a conversational system in the weather information domain"); Glass II, Abstract, § 1 (disclosing "a telephone-based speech recognizer as part of a conversational system in the weather information domain"); Seneff I, Abstract, pp.284, 290-291 (disclosing a "mixed-initiative spoken dialogue system that supports both voice-only interaction and

multimodal interaction"); Seneff II, Abstract, § 1 (disclosing "the dialogue module of the Mercury system" that manages "complex dialogue interactions" to allow "users to plan and price itineraries between major airports worldwide"); Seneff III, §§ 2, 2.1 (disclosing a "spoken dialogue system that allows users to plan air travel" using a "language understanding component"); Zue, pp.85, 86, 94 (disclosing the "GALAXY conversational system architecture" and "speech-based interfaces that combines several human language technologies to help users access information using a conversational paradigm"); Lau, Abstract, pp.14, 21, 22, 25, 37 (disclosing "a conversational system that would be able to interact with the user dynamically"); Filisko, pp. 22, 23, 30, 31 (disclosing the multimodal GALAXY conversational system that "captures a user's speech," "sends it to the speech recognizer," performs context resolution to interpret the speech, and provides "an appropriate reply to the user"); Baptist, pp.10, 38, 39, 80 (disclosing "the GALAXY conversational systems" that "produces a meaning representation in response to a user query" and generates responses to the queries); NVP System, Application Developer's Guide, p.47 ("A natural language understanding system takes a sentence (typically a recognized utterance) as input and returns an interpretation: a representation of the meaning of the sentence. The application can then use the result of the natural language understanding process to determine an appropriate response to the user's utterance, for example, playing a prompt or booking a flight."); United System, Reservations Automation CTI Phase 1, p.5 ("The primary function of the Customer Book and Ticket application is to allow UAL customers to use self service speech recognition for their ticket related questions, booking, purchase and modifications."); MINT System, Baseline User Interface Specification, p.18 ("The goal of the new speech system is to increase the customer base by attracting new users of the system. Two sets of prompts will be provided so that novice users can easily learn the system with descriptive prompts while active, expert users have shorter prompts

to instructions them navigate quickly through a transaction."); Cybermind Backgrounder, p.1 ("VoiceBox Technologies has married superior voice recognition technology and information management technologies to create a truly interactive voice experience."); Fandango Website, p.1 ("1-800-FANDANGO is powered by TellMe Networks, and lets you use voice commands, get movie times, find theater locations, buy tickets with your credit card, and personalize a list of your favorite theaters."); MiPad Demo Video, 02:15-01:21 ("In this case, we've done full recognition. . . . being able to take the sentence apart and do the right things."); *id.*, 03:37-03:55 ("I'd like to walk in the house and say, play my music and because it's coming from the playlist on my computer"); Gadd, ¶ 33 (disclosing an invention that provides "a spoken language interface for speech communications with an application running on a computer system, comprising: an automatic speech recognition system (ASR) for recognizing speech inputs from a user" and "a speech generation system for providing speech to be delivered to the user"); Hazen I, pp.50, 59-60 (disclosing a system which receives utterances from the user, uses "the TINA natural language understanding system" to "parse each utterance," and "tailor[s] a response to the user."); Dhawan, ¶ 4 (disclosing a system that allow the user to "make a selection by speaking a response" which "would be received at the central computer system" that "would interpret the spoken response" and the system would play "another menu of choices to the user"); *id.* ¶ 35 (indicating that "a VA could act as an extension or an enhancement of traditional GUI-like applications to allow the traditional applications to be accessed and/or controlled by speech commands"); Lee, 4:3-20 (disclosing an application that is configured to "receive voice data… and convert the voice data to text… to present sales transactions to user"); *id.* 4:3-20 (indicating the speech conversion application may "convert voice data to different data" that is "usable as input in one or more of search and payment application 112 and other applications"); Voisin, 24:48-25:7 (disclosing an

automatic speech recognition system that takes in a user's verbal response, makes an "authentication," and generates words through "voice portal 10"); *id.* 6:54-7:6 (indicating the automatic speech recognition (ASR) can accept "user input wherever possible."); Kennewick, ¶ 10 (disclosing a system "that receives spoken natural language queries… that receives input from the speech unit and processes the input" and that "generate a natural language speech response"); *id.* ¶ 3 (indicating that the system would "allow users to control devices and systems either locally or remotely using natural language speech commands"); Hartman 13:25-46, 18:57-19:6 (disclosing a system that "receive[s] [a] gift order" through a "voice command" of the purchaser, "collect additional delivery information," and deliver gifts "based on the additional delivery information"); *id.* 17:1-6 (describing a "single action" purchase experience); Maddux, [0139]-[0140], [0256] (disclosing a "speech recognition system" used to "select the content that the user wishes to experience" when a "user utters commands"); Ogawa, Abstract (disclosing "speech recognition on the input utterance" based on "whether the recognition result contains an unknown word"); Vanbuskirk, 4:25-65 (describing receiving and recognizing "speech commands" that are processed by the "speech recognition engine" to "identify one or more probable commands matching the context in which the command was given"); Chiu, ¶¶ [0016]-[0017] (determining selection of targeted advertisement to be presented to a user based on "accurate indication of content relevancy" based on the "interactive dialog determination . . . between the system and accessing customers"); Polish, 1:24-30 (disclosing storing and determining "context of the dialog" so that the system can "respond to successive statements with greater and greater specificity"); Kommer, 5:63-67 ("For example, context-depend[e]nt language models may be downloaded, depending on the application or service currently used by the user 1, or on topics semantically extracted from recent dialogues or other interactions of the user."); Quiroga, 21:46-48 ("[A]

process has been developed for pronoun handling, which is used as part of a natural language search engine."); Selesky, 4:55-59 ("Specific meanings are assigned to pronouns, based on con text. These meanings are consistent with English, allowing a user to comfortably use the System with minimal variations from everyday language usage."); Hodjat I, 4:44-67; 7:18-33 (describing a system that "performs some preliminary processing" of a user's spoken request via domains and domain agents to "interpret the subject message properly"); Hodjat II, 6:17-35 (discloses a system that provides "natural language interpretation" by interpreting "one or more input" and "transmits its interpretation in an 'actuation' message to the actuation agent" to interpret the user's intent and provide a response); Treadgold, 3:7-17 (discloses system that interprets a user's utterance by "using reinforcement learning" and "follow[ing] up in order to clarify or refine that response"); Piotrowski, ¶ [0067] ("[T]he terminal 10 may also include an interactive voice response unit 17 to facilitate the questioning and answering process."); Pakucs, p.741 ("For providing intuitiveness in real life situations, it is desirable to allow the users to transparently and seamlessly switch between several services, topics and tasks within one dialogue."); and Lin, Introduction ("For example, the user may temporarily deviate from one topic, such as hotel reservation, to enter several other topics, such as asking for weather information and train schedule so as to decide the date and time of arrival, and then return to the original topic of hotel reservation and reserve a room.").

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, reduce the number of user interactions, and 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 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.

b. Interactive Speech Architecture Prior Art

The asserted patents 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, Roushar, Lucente, Visel, Moller, Kobsa, Barbara, Ross, O'Neill, Cross, GyrusLogic, SmartKom, Taschereau, Kennewick, Yonebayashi, Cohen, Potter, Treyz, Mitsuyoshi, Cooper, Hao, Partovi, Huang, Coffman, MIT Galaxy System, Maddux, Portele, Schoneburg, Gadd, Desai, Lin, Houck, Thompson, Alpdemir, Waibel, Partovski, Dhawan, Lee, Hartman, Kennewick II, Voisin, Roy, Salmenkaita, Uppaluru, Jong, Ogawa, Vanbuskirk, Chiu, Polish, Kommer, Hodjat I, Hodjat II, Treadgold, Pakucs, NVP System, United System, MINT System, HeyAnita System, Cybermind System, Tellme System, Microsoft MiPad 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* SmartKom, 195, 305-313 (the NL processing module "transform(s) the word lattice sent by the speech recognizer into a list of hypotheses representing . . . possible user intentions" and disclosing an action planner that generates a response to an utterance); Visel, 12:11-15 & Fig. 4 ("One implementation of the underlying functional model of the brain is diagrammed in FIG. 4. Three primarily elements of the model are analyzer/correlator 30, the context pool memory 10, and the English semantic analyzer 50."); Barbara, ¶85 (system with "one or more service processors" including "software for receiving, interpreting and correcting the incoming information"); Ross ¶22 (disclosing a digital processor that "hosts and executes a speech center system 20, conversation manager 28, and speech engine 22 in working memory"); O'Neill Abstract, ¶¶105, 110 (disclosing a "system for conducting a dialogue with a user" using a DiscourseManager implementing "a strategy for confirming the semantic contents of a user's utterances"); Taschereau, Abstract, 7:24-16:3, Fig. 11 (disclosing an ASR system that outputs a preliminary interpretation which then passes multiple times through a dynamically generated grammar for further contextual analysis); Cross, 6:33-38 (disclosing "context-based grammar for automatic speech recognition" with an "ASR engine" that "receives speech for recognition in the form of at least one digitized word, uses frequency components of the digitized word to derive a Speech Feature Vector ('SFV'), [and] uses

the SFV to infer phonemes for the word from a language-specific acoustic model."); Kennewick, [0013] (the interactive speech "software can be distributed in any way between" a variety of hardware components "without altering the function, features, scope, or intent of the invention"); Partovi, 9:5-38 (noting that components of the disclosed voice portal system—which include various engines, servers, and databases—can be "implemented on a single computer, multiple computers and/or in a distributed fashion"); Treyz, 17:63-18:8 (noting "various architectures" comprising different configurations of servers and clients may be used); Cooper, 4:50-5:11 (describing a componentized server system that can be "ported to other computing platforms" or "clustered together"); Colledge, Abstract (the system incorporates "modules conducting steps of the method"), [0050], [0059]-[0061] (the search engine "disambiguate[s]" keywords through the "disambiguate module" and "transform[s] it into semantically equivalent queries"); Cohen, 14:42-67 (the "speech recognition engine" implements "recognize and interpret functions" of the voice-activated browser), Fig. 6 (block diagram of modules that perform "recognize & interpret" functions); Potter, 8:25-9:22 (disclosing a microphone input, "word recognition device," "content determination device," and output device for interactive speech); Coffman, 25:36-38 (disclosing that "various forms of hardware, software, firmware, special processors, or combinations thereof" can be implemented); Lin, 2 (disclosing a spoken dialogue system that has "a distributed architecture" with "each functional component … modularized and partitioned into the domain independent procedure" such as acoustic recognition and "the domain-dependent data" such as "the lexicon, the language models and the grammar rules"); Houck, 9:3-14 (disclosing an interactive speech module that has "an input interpretation module … and various input/output (I/O) devices"); Thompson, 399-400 (disclosing an interactive speech system that includes a "speech generator," "speech recognizer," and "dialogue manager [that] generates

interprets, and processes conversations"); Piotrowski, [0038]-[0039] (components of a voice transaction terminal include "input interface" with speech to text capability and a voice browser for providing audio input and output, which can be implemented as multiple components or "integrated into a single component"); Dhawan, [0051] (disclosing "a speech recognition engine . . . to properly interpret a portion of a spoken command" that may be local or remote); Lee, 3:37-46 (system for generating transactions from voice input can be implemented by "user device," "merchant," and "payment provider server" that may each include "appropriate components … to implement the various applications, data, and steps described"); Kennewick II, [0088], [0152] (discloses an interactive speech system with a "speech recognition engine" to "recognize words and phrases" and a "parser" which transforms the words and phrases into complete commands or questions by "determin[ing] a context for an utterance"); Voisin 25:15-44, Fig. 31 (disclosing a system that uses an ASR "to acquire the user's response" followed by a separate step of determining whether the voice recognition was successful for the current domain); Roy, [0075]-[0078] (disclosing a system that uses a "phoneme recognition process" followed by "determin[ing] their conceptual representations [] by the conceptual dependency parser"); Salmenkaita, [0037], [0052] (disclosing a speech recognition system with a "voice recognition engine" that provides representation of the words or phrases and a "context inference engine" to determine the user's current context); Maddux, [0046], [0052] (disclosing a "Context Manager" that provides the "Recognizer" with the "current context" and the Recognizer returns the spoken command based on the grammars for the context), Fig. 1 (block diagram showing "user input," "computer based speech recognition system," and "output" to various devices), Fig. 15 (same); Portele, 7:12-28 (the input from user is processed by "the speech- recognition and language understanding module"); Ogawa, ¶¶ [0226] (discloses a "speech processing program" that can be executed on any "personal

computer," such that the "speech processing program" is "installed in the storage unit [and] loaded from the storage unit to the RAM in response to a command from the CPU"), [0064] ("The dialog control unit [] understands the content of an utterance from the user based on the output of the speech recognition unit"); Vanbuskirk, Fig. 2 (block diagram showing typical architecture of a system implemented with computers), 4:43-5:10 (disclosing that the speech recognition system may be performed by "acoustic modeling block" that process the speech command, followed by a "context modeling block" that identify probable commands matching the context, and a "lexical/grammatical modeling block" that "help restrict the number of possible words" corresponding to the speech command"); Kommer, 4:51-60 (disclosing that spoken language understanding is performed locally with language and speech models stored on the user's device), 8:35-48 ("pervasive platform [] (or any other software module run on the end device or by the service provider) executes natural language processing"); Hodjat I, 4:1-41 (disclosing a system that implements "an agent-based software architecture" where "a given task is divided up into several sub-tasks and assigned to different 'agents' in the system," with each agent being a module that handles "a part of the decision-making process"), 6:37-54 ("agent oriented interpretation unit" is connected to the input and output connected to other various devices); Hodjat II, 2:7-35 (natural language input is interpreted by an agent network organized as a hierarchy of domains that pass requests from agent to agent); Treadgold, 1:49-2:4 (disclosing software architecture that includes "natural language interpreter" that parses the input and discern user's intent); Pakucs, 744 (framework for dialogue processing features a "modular agent-based architecture" that supports "gradual extension of the system functionality"); NVP System, Getting Started Guide, 4 ("The Conversation Server is a collection of modular components called services. These services can be started and monitored separately" and include interpreter, speech recognition and verification

engines); United System, Customer Book and Ticket E-mail Address Collection, User Interface Specification, 4 (describing a module for collecting e-mail address and names), Customer Book and Ticket Address Dialogue Module User Interface Specification, 16-17 (describing module to collect full address); MINT System, Final Requirements Specification, 7-8, 24-25 (system architecture will "support future hardware and operating portability," with the call flow performed on the voice response unit ("VRU"), and the business logic and databases will be located off the VRU); Desai, [0132]-[0141] (describing Anita System architecture with "Anita Speech Recognition Engine (1)," "Anita Natural Language Engine (2)" that "converts natural language sentences to a set of structured commands" and "Anita Query Engine (3)" that maps commands to an application); Cybermind Backgrounder, PDF Page 1 (once meaning is established and context is created, a query is handed off to an "information retrieval module" "that categorizes the type of question and sends it to the appropriate content source to retrieve the answer"); Eisenmann, 3 and Exhibit 3 (Tellme System's architecture has an input through a wireless or land-based phone network that Tellme network translates into an internet command and routes to a destination server; output is through the same phone network); MiPad Demo Video, 00:46-01:25, 01:32-1:45, 2:56-3:06 (showing voice input; disclosing "recognition" and "parsing" voice input to command such as composing emails and calendaring; connections to various devices); Deng, at Fig. 2 (demonstrating MiPad's client-server (peer-to- peer architecture including "Continuous Speech Recognition" and "Spoken Language Understanding").

Persons having ordinary skill in the art were aware of various architectures for interactive speech systems, which could perform speech recognition on natural-language voice inputs and act on the recognized speech. *See, e.g.*, Seneff III, § 2.1 (disclosing "the GALAXY architecture" that includes an "audio server [that] captures the user's speech, a "speech recognizer," a "language

understanding component," a "discourse component," a "dialogue manager," a "generation component," and a "speech synthesizer" that "transmits a waveform to the audio server which then relays the spoken response to the user over the telephone"); Mitsuyoshi, Fig. 1 (illustrating a multi-unit architecture with voice recognition unit); Schoneburg, Fig. 1 (illustrating an "architecture of the system for interactive dialog management"); Desai, Fig. 1 (illustrating a server architecture containing a speech recognition engine, natural language engine, query engine, and prompt generator); Yonebayashi, Fig. 4 (illustrating a system configuration for displaying an advertisement utilizing voice recognition device; Hao, Fig. 1 (illustrating a system that includes "e-commerce server" and "input processing system" that are communicatively linked to a "network"); Huang, Fig. 1.4 (illustrating a "basic system architecture of a spoken language understanding system" with blocks representing "Access Device," "Speech Recognizer," "Sentence Interpretation," "Dialog Manager," "Application," and "Database"); Gadd, Fig. 1 (illustrating system architecture that includes "Voice Controller," "Automatic Speech Recognition System," "voice controller," and "personalization and adaptive learning unit" for communicating with input devices such as "mobile, satellite, or landline telephone"); Uppaluru, Fig. 1 (illustrating voice web system for voice and speech processing applications with a server software, voice web browser, and telephone network); Jong, Fig. 2 (illustrating a system with "speech input device," "speech recognition device," "speech output device"), Fig. 9 (illustrating a speech recognition device that includes "spectral analysis device," "word-level matching device," and "sentence-level matching device"); Waibel, Fig. 1 (illustrating a speech recognition system that includes a "speech recognition engine," "microphone," and "input electronics"); Alpdemir, Fig. 1 (illustrating a high-level interactive voice system architecture that includes "speech-to-text conversion engine;" and "speech server" with access to a wireless device); Chiu, Fig. 15 (illustrating components of a voice

application server provider that includes "voice portal" that matches multiple users to the appropriate speech application, "a service provider database," and an "advertisement database"); Polish, Fig 1 (illustrating a voice query system architecture including "speech recognizer;" "device controller;" "language model," "result interpreter," and "database").

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.*, 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).

c. Product/Service Recommendation Prior Art

The asserted patents are also invalid in view of any combination of references related to selecting and presenting recommendations or promotions, including, for example, Gilbert, Beaufays, Taschereau, Jones, Ramer, Lee, Kennewick, Yonebayashi, Cohen, Colledge, Treyz, MIT Galaxy System, HeyAnita System, United System, TellMe System, Salmenkaita, Uppaluru, Gadd, Partovi, Desai, Dhawan, Maddux, Chiu, Alpdemir, Hao, Voisin, Kommer, Treadgold, Lee, and Piotrowski (collectively, "Product/Service Recommendation Prior Art").

The Product/Service Recommendation Prior Art describe a number of benefits that were known to persons of skill in the art. For example, providing recommendations or promotions in a

commercial system could increase revenue. *See, e.g.*, Gilbert 1:18-22 ("The present invention relates to providing targeted advertising to a consumer using telephony services by generating user profile information from that consumer's telephony data, and then using the user profile information to retrieve and display targeted messages."); Taschereau 25:5-11 ("[W]hen a request is made for a restaurant in a certain geographic area, a competitor could present an advertisement with an inducement (e.g. a coupon or the like) in an attempt to lure that customer to a different establishment."); Jones, Abstract ("[t]argeted advertisement is provided to mobile device users based on one or more keywords spoken by the mobile device users."); Ramer, Abstract, Fig. 1, 5:6-7, 8:66-9:3 (internet searching with queries input using speech recognition as well as selecting and presenting targeted advertisements to a user conducting a search, and advertising database for presenting sponsored content to users); Beaufays [0094] (As can be appreciated from the foregoing, embodiments consistent with the present invention can be used to provide useful serial ads, such as ads for voice local search requests, which will benefit both the advertisers and the users of the service."); Dhawan, ¶ [0079] (integrating advertising into an interactive voice platform permits collection of advertising revenue); Desai, ¶ [0017] (noting "[s]ubstantial portions of the commerce and advertising markets remain uncaptured"); Voisin, 33:9-14 ("[D]ecisions are made on which advertisements users are to have delivered to them. Factors incorporated into this decision include . . . revenue potential "); Lee, 2:47-53 ("[I]f after receiving the additional voice command, the requested item is not available from the merchant, the user may be offered a new sales transaction. For example, if the user requests two tickets at 9:15 PM but movie A only has one available ticket at that time, a new sales transaction with another merchant or at another time for the two tickets may be offered to the user.").

Recommendations or promotions tailored to a user's requests or other user-specific

information can also improve the user's experience. *See, e.g.*, Gilbert 4:24-27 ("In one embodiment of the present invention, the method of providing targeted advertisements to a consumer using a VoIP telephone service includes the steps of converting the user's speech from a telephone call into text data through speech recognition software, sending the text data to a server, extracting keywords from the text data, using those keywords to select targeted advertisements stored in a database, and then providing the selected advertisements to the consumer."); Taschereau 25:5-11 ("By using the information available about the user and the listing the user is looking for, very precise advertisements can be presented to the user."); Ramer, 47:34-45, 15:53-60 ("[S]earch results are presented to the user 1104 on the mobile communication facility 102 that are targeted to the user … the information is also used to better target advertising, and sponsored advertisements may be provided to the mobile communication facility 102 through a pay for auction advertisement scheme."); Cohen, 18:43- 19:37 (disclosing a system that provides promotional content based on activities, such as offering a car rental promotion in Cleveland to a user who has just used the voice browser to make an airline reservation for a flight to Cleveland); Desai, ¶ [0113] ("AdMixer: Selects advertisements based on the user's preferences and history."); Fandango TellMe, p.2 ("The new number utilizes the latest in speech and Web technology and, with streamlined call flows and user interface, customers are able to execute transactions in under two minutes — resulting in a higher conversion rate of callers to ticket purchases and the ultimate convenience for moviegoers."); Filisko, p.30, 31, FIG. 1-6 (disclosing dialogue between a user and the "MERCURY flight reservation system" where "MERCURY has found a flight and asks for the user's approval" and "books the flight" for the user); Partovi, 2:67-33 (disclosing "[o]nce the profile is provided, the advertising is targeted to the particular person's explicitly provided demographic information. In some instances, the advertising may be targeted both based on the

caller's demographics and their location."); Maddux, ¶ 256 (disclosing "[t]he exemplary embodiment of the invention consists of targeting advertising content to individual users, as determined by the speaker identification system."); Gadd, ¶ [0497] (disclosing "on-demand streaming of advertisements over the Internet from advertising providers … [and] local caching of advertisements so as to ensure a consistent quality of service is delivered"); Kommer, 8:35-48 (disclosing "related advertising message from a service provider" based on "extraction of a specific topic from a user's dialogue"); Treadgold, 12:63-67 (disclosing that system "remembered that the user is looking for Harrison Ford movies in Sunnyvale so that when the proposal to get movie at Cinema X is selected, the information regarding Harrison Ford and Sunnyvale is maintained"); Chiu, ¶ [0091] ("[T]he advertisement that most closely matches the exact keywords and or phraseology input by the user in the search engine before the enterprise advertisement was served and selected by the user is selected for service into the interaction flow of speech application[]."); Voisin, 9:14-16 ("[G]athers information from the customer in order to further help determine what type of advertising to give to the customer, and how to improve the customer's service."); Piotrowski, ¶ [0009] ("providing a user with product or service comparison information to provide the user an optimum search result in accordance their needs or desires."). Providing targeted recommendations or promotions may also increase user engagement, providing a benefit to advertisers. *See* Yonebayashi, ¶¶ [0002], [0017] (describing a goal of using user request information to select "an advertisement of interest to a user at a desired time" to "enhance[] the effect of advertising"); Dhawan, ¶ [0079] ("[T]he advertising message would be highly context relevant, which would make it more interesting to advertisers"); Uppaluru, 12:48-61 (describing a "personal voice web" to allow users to shop various catalogs and select items "directly to the sponsor of the associated catalog"); Desai, ¶ [0130] ("Intermix commercials and information in a

seamless manner to generate unique entertaining experience for the user"); Hao, 7:66-8:6 ("Brand popularity and general shopper profile information can be used to locate one or more potential candidates for an unresolved item. For example, quality and price thresholds in a shopper profile combined with backpack popularity data (obtained from the purchases of other shoppers) can suggest that backpack refers to 'JANSPORT, COLUMBIA, or NORTH FACE' which can be presented to a shopper for shopper selection."); Alpdemir, 5:48-50 ("[A]n advertising free initial experience where voice or audio coupons are only heard attached to businesses that the caller has requested or searched for."); United System, Customer Book and Ticket Seating User Interface Specification, p.8 ("I see from your Mileage Plus profile that you prefer aisle seating. Would you like me to assign you an aisle seat?").

Persons having ordinary skill in the art were aware of various methods for selecting and presenting recommendations or promotions in computer systems. *See, e.g.*, Kennewick, ¶ [0066] (explaining that the "speech interface device" also provides "offers and promotions for goods and services.," such as "location based marketing programs . . . [for] promotional offers from merchants along a route of travel"); Yonebayashi, ¶¶ [0008], 10, 17 ("select[ing] [] advertisement that matches the user's taste and [] is presented at an appropriate tim[e]"); Cohen, 18:43-19:37 (disclosing a system that provides promotional content based on activities, such as offering a car rental promotion in Cleveland to a user who has just used the voice browser to make an airline reservation for a flight to Cleveland); Colledge, 4:61-62, 12:45-49, 13:6-11 (a natural language understanding system that identifies advertisements related to the context of a user's request using a machine learning classifier); Treyz, 65:3-9 (disclosing that "if the user is tuned to a sports-related audio program, an advertisement for a restaurant with a sports theme may be provided"); Seneff I, Abstract, § 1 (disclosing the "MERCURY flight reservation system" that arranges "a trip one leg

at a time" and "offers to price the itinerary"); Seneff II, § 2, FIG. 2 (disclosing "MERCURY is a spoken language system that allows users to plan air travel," "gets all of its flight and fare information from the Travelocity Web site," and "takes the initiative in offering to price and email the itinerary"); Seneff III, § 1, 2 (disclosing "the MIT MERCURY flight reservation system" that "gets all of its flight and fare information from the Travelocity Web site," and "takes the initiative in offering to price and email the itinerary"); Zue, p.95 (disclosing "MERCURY, a conversational interface for travel planning" and making flight reservations); Filisko, pp.30-31, FIG. 1-6 (disclosing dialogue between a user and the "MERCURY flight reservation system" where "MERCURY has found a flight and asks for the user's approval" and "books the flight" for the user); Salmenkaita, ¶ [0008] (disclosing a "method comprising recommending to a user a subset of services from a plurality of services available to the user."); Desai ¶ [0168] (disclosing "Anita Ad Generator 9 asks Anita Profiler 10 for the user preference and usage history data and uses it to select appropriate commercials."); Uppaluru, 18:57-67, Claim 1 (disclosing "a method of delivering caller-customized voice-based information to a caller" for providing personal voice web service pages based on "voice web attributes and preferences page" that includes "default parameters obtained from the subscribers attributes and preferences"); Gadd, ¶¶ [0487]-[0497] (disclosing advertisements that are "linked to a commerce application provided by the system" such that "movie theaters, restaurant chains, etc. can sponsor content" based on user requested information); Kommer, Abstract, 8:35-48 (disclosing "method for building multimodal business channel between users, services providers, and network providers" by providing "related advertising message from a service provider" based on "extraction of a specific topic from a user's dialogue"); Treadgold, 12:63-67 (disclosing that the system "remembered that the user is looking for Harrison Ford movies in Sunnyvale so that when the proposal to get movie at Cinema X is

selected, the information regarding Harrison Ford and Sunnyvale is maintained"); Chiu, ¶ [0068] ("the provider may allow advertisers to configure advertisements for third-party placement to data search result pages returned to users by associating the advertisements to be submitted for placement to search-term relevant keywords or phrases").

Accordingly, the Product/Service Recommendation Prior Art was known work in the same field of computer technology. Design incentives or other market forces such as efficiently marketing content relevant to a user's request would have motivated a POSITA to incorporate features taught by such prior art in predictable ways to entice users to purchase products or services that relate to the user's interests. Combinations with the Product/Service Recommendation Prior Art would (1) involve a simple substitution of one known element (e.g., selecting and presenting a relevant recommendation or promotion) for another (e.g., selecting and presenting relevant information to a user's request such as weather or traffic data) to obtain predictable results (e.g., the system can select and present promotions or advertisements that relate to the context of a user's request such as raincoats on sale when they user asks for the weather on a rainy day); (2) involve the use of these known techniques (e.g., selecting and presenting promotions or advertisements that are relevant to a user's request) to improve marketing and advertisement in similar interactive speech systems in the same way; and/or (2) involve applying a known technique (e.g., selecting and presenting recommendations or promotions) to a known device, method, or product (e.g., a device that can interpret the context of a user's request and take action on the user's behalf such as presenting weather or traffic information, to a user) ready for improvement to yield predictable results (e.g., the device may select and present recommendations or promotions in addition to selecting and presenting weather and traffic information).

d. Interaction Tracking Prior Art

The asserted patents are also invalid in view of any combination of references related to

tracking user interaction with recommendations or promotions, including, for example Gilbert, Beaufays, Ramer, Lee, Jones, Kennewick, Cohen, Yonebayashi, Colledge, MIT Galaxy System, Uppaluru, Gadd, Partovi, Maddux, Hao, Kommer, Treadgold, Dhawan, Chiu, Hodjat II, and Alpdemir (collectively, "Interaction Tracking Prior Art").

The Interaction Tracking Prior Art describe a number of benefits that were known to persons of skill in the art. For any given recommendation or promotion, a system can determine whether it is high-engagement (and is therefore successful and worth continuing) or low-engagement (and is therefore unsuccessful and should be replaced with a different one). Additionally, tracking users' interaction with recommendations or promotions can help for creating profiles for particular users, and therefore to later provide advertisements similar to ones the user has engaged with more in the past. *See, e.g.*, Jones [0033], [0063] (discloses the use of analytics to track user engagement with advertisements and to select advertisements to be presented); Ramer, 124:5-21 (disclosing a method of "optimizing search results for mobile users may include tracking the online interactions" such as "tracking clicks, clickthroughs, queries, [and] clicks following queries"); Gilbert 8:26-35 ("The server may also analyze (or provide additionally analysis of) the text data generated from the consumer's conversation."); Beaufays [0064] ("Audio ad performance (e.g., selection rate, conversion rate, etc.) may be tracked."); Colledge, 4:23-40 ("The embodiment relates generally to system and methods for associating a search query or Information with an advertisement. This is particularly useful for web pages and search queries in the Internet…. For example, a site describing do-it-yourself auto-repair could choose to have advertisements related to the sale of replacement automotive parts displayed on the web page."); Desai, ¶ [0150] ("Implements complex algorithms to create an entertaining experience for the user by mixing advertisements and information in a seamless manner. based on a variety of factors

such as user preferences and usage patterns "); *id.* ¶ [0253] ("HeyAnita is a learning system. It keeps on accumulating information about how users interact with it and modifies its search mechanism based on users' navigational history and preferences."); Kennewick, ¶ [0066] (disclosing that system may include "offers and promotions for goods and services," which may be based on the user's "profile, history, and location"); Cohen, 18:43-19:37 (disclosing a system that provides promotional content based on activities, such as offering a car rental promotion in Cleveland to a user who has just used the voice browser to make an airline reservation for a flight to Cleveland); Filisko, pp.30-31, FIG. 1-6 (disclosing dialogue between a user and the "MERCURY flight reservation system" where "MERCURY has found a flight and asks for the user's approval" and "books the flight" for the user); Partovi, 2:67-33 (disclosing "[o]nce the profile is provided, the advertising is targeted to the particular person's explicitly provided demographic information. In some instances, the advertising may be targeted both based on the caller's demographics and their location."); Maddux, ¶ [0155] ("[I]f a user frequently requests to 'scan sports,' then it is assumed the user prefers sports related programs. This then becomes part of the user's 'Preference Profile.'"); *id.* ¶ [0256] (disclosing "[t]he exemplary embodiment of the invention consists of targeting advertising content to individual users, as determined by the speaker identification system."); Gadd, ¶ [0497] (disclosing "on-demand streaming of advertisements over the Internet from advertising providers … [and] local caching of advertisements so as to ensure a consistent quality of service is delivered"); Kommer, 8:35-48 (disclosing "related advertising message from a service provider" based on "extraction of a specific topic from a user's dialogue"); Treadgold, 12:63-67 (disclosing that the system "remembered that the user is looking for Harrison Ford movies in Sunnyvale so that when the proposal to get movie at Cinema X is selected, the information regarding Harrison Ford and Sunnyvale is maintained"); Yonebayashi, ¶¶ [0002],

[0017] (describing a goal of using user request information to select "an advertisement of interest to a user at a desired time" to "enhance[] the effect of advertising"); Dhawan, ¶ [0079] ("[T]he advertising message would be highly context relevant, which would make it more interesting to advertisers"); Uppaluru 12:48-61 (describing a "personal voice web" to allow users to shop various catalogs and select items "directly to the sponsor of the associated catalog"); Seneff III, § 2.1, FIG. 2 (disclosing the MERCURY flight reservation system that "makes use of the GALAXY architecture" that includes a "dialogue manager [that] consults a dialogue control table to decide which operations to perform" and "prepares a response frame" such as confirming that "Delta flight 1473 has been added to [the user's] itinerary"); Filisko, p.30, 31, FIG. 1-6 (disclosing a dialogue between a user and the MERCURY flight reservation system where "MERCURY has flight a flight and asks for the user's approval," the user "takes initiative and says, 'book this flight,'" and "MERCURY books the flight"); Chiu, ¶ [0031] ("[U]sing search engine input collected during a data session between a network-capable computing device operated by a user and a network server as ranking and selection criteria for determining an advertisement for presentment to the user through a speech application."); *id.* ¶ [0098] ("Historical or statistical data that may be known about the customer at the point of the provider's server may be used at the voice application server to further tune voice application interaction more toward the customer's needs."); *id.* ¶ [0113] ("For example, a competing ad dialog may win placement via keyword relevancy, but may be overridden for placement by another less relevant advertisement if, for example, information about the caller indicates the less keyword-relevant advertisement shows more relevancy toward statistics about the caller."); *id.* ¶ [0115] ("[T]he system attempts to satisfy the object of the call, which may be borne out through caller interaction with the advertisement dialog . . . ."); *id.* ¶ [0124] ("Ad dialogs may be selected according to keyword relevancy in combination with customer interaction choices

to narrow selection options for presentment."); Hao, 7:59-63 ("[A] shopper's profile can specify that ENFAMIL LIPIL with iron is a preferred baby formula. Shopper purchase history can also indicate that cheese refers to KRAFT 10 oz. packets, which resolves ambiguities"); Hodjat II, 25:31-38 ("Depending on the importance and generality of this information to the application domain, it can then be stored in the preferences repository for future reference. For instance a user shopping for clothes may need to find an item his or her size. If the size information is not available in the preferences already, the system will dialog back to the user asking that information, and then store it in the preferences repository for future use."); Alpdemir, 69:27-36 ("The Talk411 services can be personalized and customized based on individual preferences, such as: . . . Create a 'buddy' list of friends and family Create a personal 'preferred business directory'").

Accordingly, the Interaction Tracking Prior Art was known work in the same field of computer technology. Design incentives or other market forces such as tracking the success rate of advertisements and promotions presented to a user and tailoring future advertisements based on success rate would have motivated a POSITA to incorporate features taught by such prior art in predictable ways to mitigate problems associated with continued presentation of unsuccessful advertisements. Combinations with Interaction Tracking Prior Art would (1) involve a simple combination of one known element (e.g., recording user's interactions with a recommendation or promotion) with another (e.g., recording information about user interaction with the user interface that identify the user's interests or preferences) to obtain predictable results (e.g., use the additional user data to tailor recommendations or promotions to the user(s) interests or preferences); (2) involve the use of these known techniques (e.g., tracking user interaction with advertisements) to improve similar computer systems in the same way; and/or (3) involve applying a known technique (*e.g.*, tracking advertisement interaction) to a known device, method, or product (*e.g.*, a device that

can present advertisements to a user) ready for improvement to yield predictable results (*e.g.*, the device may track advertisement interaction with respect to the user in which the advertisement was presented).

e. Word Recognition Prior Art

The asserted patents are also invalid in view of any combination of references related to the identification and mapping of phonemes to syllables and using syllables to recognize words of a user's utterance, including, for example, Hansen, Jones '330, Verma, Cross, MIT Galaxy System, Huang, Jong, Roy, Salmenkaita, Uppaluru, Glass I, Glass II, Seneff III, Cohen, Kommer, Polish, Ogawa, Vanbuskirk, NVP System, and Microsoft Mipad System (collectively, "Word Recognition Prior Art").

The Word Recognition Prior Art describe a number of techniques that were known to persons of skill in the art to recognize the words and phrases of the user's utterance. *See, e.g.*, Roy, ¶ 11 ("[t]he approach of this invention does not rely on word spotting, context-free grammars or other single-phoneme based techniques to "recognize" digitized audio signals representative of the speech input and consequently does not probabilistically bias the pattern recognition algorithm applied to compare stored phonemes profiles in each cluster with the audio data. Instead the approach of this invention is to recognize multiple, sometimes alternative, phonemes in the digitized audio signals; build words through streaming analysis, syntactically validate sequences of words through syntactic analysis, and finally, analyze selected syntactically valid sequences of words through conceptual analysis."); Hansen Abstract, 1:8-10 (disclosing a speech recognition system that identifies "the phoneme sound types that are contained within an audio speech signal"); Cross, 6:33-38 (disclosing "context-based grammar for automatic speech recognition" with an "ASR engine" that "receives speech for recognition in the form of at least one digitized word, uses frequency components of the digitized word to derive a Speech Feature Vector ('SFV'), [and] uses

the SFV to infer phonemes for the word from a language-specific acoustic model."); *see, e.g.*, Glass I, §§ 3, 4, 6 (disclosing "pronunciation modelling," representation of words "as sequences of phonetic units augmented with stress and syllabification information, and "diphone models"); Glass II, §§ 3, 4, 6 (disclosing "pronunciation modelling," representation of words "as sequences of phonetic units augmented with stress and syllabification information, and "diphone models"); Seneff III, § 2.2 (disclosing "acoustic models" for the "component phones" of words, and combining "acoustic and linguistic scores … to give an overall sentence score" for speech recognition hypotheses); Huang, p. 20 (Disclosing that "[s]peech signals are composed of analog sound patterns that serves as the basis for a discrete, symbolic representation of the spoken language – phonemes, syllables, and words."), Jong, 5:35- 67 (disclosing a "speech recognition device 203" that identifies "phonemes (speech sounds)," "identif[ies] … word syllables that are correlated with the phonemes" and groups the "syllables that make up the various words . . . into the recognizable words"); Roy, Abstract (disclosing "statistical models … [for] multi-phoneme recognition… build[ing] the list of candidate words . . . [and] produce[ing] sequences of candidate words"); Salmenkaita, ¶ 144 ("[m]odels of words are made by chaining or linking appropriate statistical models of phonetic segments … [and are] matched with the unknown voice signals to be recognized"); Uppaluru, 17:10-16 (disclosing "digital sampling of the word utterances . . .acoustic signal processing" using "spectral analysis" and "recognition of phonemes, groups of phonemes and words"); Cohen, 14:42-67 (discloses "speech recognition engine" that recognizes one or more words based on "statistical models of all phonetic units that make up the words"); Kommer, 4:51-60 ("the recognition uses speech acoustic models (acoustic models for the phonemes) and language models which depend on each user"); Polish, 2:34-46 (disclosing "a speech recognizer configured to receive the first statement and configured to convert the first statement into a plurality of

phonemes and a first language model configured to generate a plurality of parsing tokens based on the plurality of phonemes and the grammatical data"); Ogawa, ¶ [0075] (disclosing an "acoustic model database" that "stores an acoustic model representing acoustic features of individual phonemes and syllables of a language for the utterance to be recognized"); NVP System, Application Developer's Guide, 31-32 ("The recognition service uses dictionaries along with text-to-sound rules to map phoneme sequences to words.").

Accordingly, the Word Recognition Prior Art was known work in the same field of computer technology. Design incentives or other market forces to improve the accuracy of speech recognition would have motivated a POSITA to incorporate features taught by such prior art in predictable ways, including by distinguishing units of sound (phonemes), mapping those phonemes to syllables using an acoustic grammar, and for recognizing the words of an utterance from those syllables. Combinations with Word Recognition Prior Art would (1) involve the combination of known methods (*e.g.*, recognizing phonemes, mapping phonemes to syllables using an acoustic grammar, and recognizing words from those syllables) to yield predictable results (*e.g.*, accurate recognition of the words of the spoken utterance); and (2) involve the use of these known techniques to improve similar computer systems in the same way.

f. Misrecognition Prior Art

The asserted patents are also invalid in view of any combination of references related to detecting and correcting misrecognized utterances, including, for example, SmartKom, Barbara, Taschereau, Franco, Ramer, Visel, Kennewick, MIT Galaxy System, Yonebayashi, Treadgold, Colledge, Vanbuskirk, Waibel, Hotjat I, NVP System, United System, MINT System (collectively, "Misrecognition Prior Art").

The Misrecognition Prior Art describe a number of benefits that were known to persons of skill in the art. For example, it was well known that detecting and correcting a user's

misrecognized speech input can help improve a user's experience interacting with a spoken language understanding system. *See, e.g.*, SmartKom, 287 (teaching an intention recognizer that "select[s] the interpretation of the user input which is considered to be the best matching one"); (Waibel, 3:10-56 (disclosing "[t]he present invention enables the incorrectly recognized speech to be corrected through an event independent of the primary utterance" which provides a user with a friendly and natural method of correcting recognized speech and thus further improving the changes that the speech is correctly identified); Barbara ¶¶85-87, 90 (disclosing a "voice recognition engine" that provides "best guesses of the voice recognition engine as to what was said, with some indications of their likelihood"); Taschereau 22:23, 23:6-7 (disclosing an "adaptive" system that "can take advantage of linguistics . . . and can extract meaning from an utterance"); Franco [0020] (("By assuming that a subsequent speaker utterance will comprise all or part of a previously spoken (**and incorrectly recognized**) utterance, the acoustic evidence from the previous and subsequent utterances can be combined in an efficient manner to produce a more accurate corrected recognition."); Visel 17:1-15 ("For extracting intent from sentences, a general communications triad is defined: The speaker, the person/object spoken to (e.g., the receiver of commands), and the person, object or subject spoken of. Most of this information can be inferred from sentence content, from the present context pool 10, and from state parameters 20 and 23."); Kennewick, ¶ [0161] (disclosing that a "user can rephrase the original question, perhaps adding additional information to remove ambiguity, or the system can ask one or more questions to attempt to resolve the ambiguity"); Ramer 9:14-15, 24:49-53 (disclosing a "disambiguation facility 140" which "may complete or provide more meaning to ambiguous active user inputs"); Vanbuskirk, 6:61-67 (disclosing system that "allows the user to correct the displayed paraphrased command if it is incorrect"), Hodjat I, 3:25-44 (The system may "run into a contradiction" and

react to user input in a "manner the user does not anticipate." "The resolution of this contradiction is an integral part of" adapting to the changing context or "to the user's way of expressing her/his intentions."); Treadgold, 2:12-16 (explaining that if user commands are not recognized or "recognized incorrectly, then the system might command the back-end application to perform a function different from the user's intent"), 5:19-55, 6:31-59 (to arrive at the correct interpretation of command, the system can provide the user with tokens (*e.g.*, "synonym") that were not understood by the system and ask for them to be explained); Colledge, [0050], [0054] (The result of processing of the words by a "disambiguation module" is a disambiguated query comprising given interpretation ascribed to the words rather than ambiguous or uninterpreted words.).

Persons having ordinary skill in the art were aware of methods for detecting misrecognition of an utterance. *See, e.g.*, Yonebayashi, ¶¶ 52-53 (disclosing "if the user remarks "I want to see an advertisement for a different manufacturer" as shown in Figure 5(b) with respect to the agent's advertisement (action), based on the keywords "different" and "manufacturer" extracted from this remark, the action determination means 3 determines, as the action, "energy drink (second candidate)" from the provision of the then portion of the case in the case dictionary 62 that returns a hit."), FIG. 5(b); Kennewick, ¶[0161] (if the system's score of a user utterance is not high enough, the system determines that no reliable response can be generated and "ask[s] a question of the user to verify the question or command is correctly understood"); Waibel, Abstract ("hypothesis having the highest combined score is selected as the replacement for the located error"), Figs. 4-5, 3:10-56 (disclosing "[t]he present invention enables the incorrectly recognized speech to be corrected through an event independent of the primary utterance" which provides a user with a friendly and natural method of correcting recognized speech and thus further improving the changes that the speech is correctly identified), 4:39-52 (disclosing that "[f]eedback is provided from the

correction and repair module 12 to the speech recognition engine 14 for the purpose of correcting and repairing the speech recognized by speech recognition engine 14 when the mode of correction is to respeak the incorrect word or words"), 5:7-59, 6:15-8:13; Seneff III, § 2.2 (disclosing that "dialogue manager then decides whether this request is consistent with the prior dialogue" and if "some part of the query is problematic, it may do one of several things" including "seek an alternative hypothesis from the N-best list, that may be more appropriate pragmatically"); Filisko, p.67-68, 114-116 (disclosing misrecognitions such as a speech recognition hypothesis "'I want a hotel and Detroit' in which 'and' was substituted for 'in'" where "the parser could not establish any structure between the topics"); Vanbuskirk, 7:13-25 (disclosing example that when the "user said 'window' instead of 'word'" the user can "undo the prior unintended command by issuing an 'undo' command" so that the command is corrected); Hodjat I, 4:63-67 (disclosing that "[i]n the event of a contradiction" in the interpretation by a network of agents, "the network is often able to resolve many of such contradictions according to predetermined automatic algorithms," and the network can learn "new interpretation policy necessary to interpret the message"), 15:66-16:14 ("Input Regulator" "resolve[s] the contradiction. Any predefined contradiction resolution procedure can be programmed into the system," or the system can query the user and "adjust its interpretation policy…in accordance with the user's response"); Treadgold, 5:19-55 (to ensure that the extracted synonyms are what the user intended, the system can interact with the user to confirm the correctness of the synonym); NVP System, Application Developer's Guide, 27, 35 (NVP system uses "confidence information" to detect information that might be recognized incorrectly); United System, Customer Book and Ticket Collect Name User Interface Specification, 23 (disclosing prompts to ask the user to repeat the spelling of the passenger's last name in the event of "Nomatch"); MINT System. User Order Specification, 3 (disclosing prompts to ask the user to

repeat a command, such as "I'm sorry I didn't hear you…," "I'm sorry I didn't understand …")

Accordingly, the Misrecognition Prior Art was known work in the same field of computer technology. Design incentives or other market forces such as user frustration with spoken-language systems responding or acting on a misrecognition of the user's request would have motivated a POSITA to incorporate features taught by such prior art in predictable ways to mitigate misrecognition in spoken language understanding prior art. Combinations with Misrecognition Prior Art would (1) involve applying a known technique (*e.g.*, associating terms like "no, that's not what I said," "undo" or "I meant . . ." with a prior utterance having been incorrectly recognized) to a known device, method, or product (*e.g.*, a spoken language understanding device or system) to yield predictable results (*e.g.*, the device or system may recognize that a prior utterance was misrecognized); and/or (2) involve the use of these known techniques (*e.g.*, detecting misrecognition of an utterance) to improve similar computer systems in the same way.

g. Disambiguation Prior Art

The asserted patents are also invalid in view of any combination of references related to the natural language understanding concept of disambiguating the user's intent in speaking the words of an utterance, where those words may have different meanings in different contexts, including, for example, SmartKom, Barbara, Lucente, Beaufays, MIT Galaxy, Kennewick, Desai, Coffman, Maddux, MIT Galaxy System, Hodjat I, Hodjat II, Treadgold, Pucuks, Lin, NVP System, and Microsoft Mipad System (collectively, "Disambiguation Prior Art").

The Disambiguation 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 meaning of particular words spoken by a user may have a range of applicable subject-matter areas or domains that result in a different meaning or context of those words. For example, the utterance, "Hurricane" has a different meaning in relation to weather, movies, sports, music, and television subject areas or domains. It

was well-known that one way of disambiguating the user's intent in speaking the one or more words is by interpreting the utterance based on the different applicable subject-matter areas to pick the most likely interpretation. *See, e.g.*, Kennewick, Abstract, [0160]-[0164] (identifying the benefit to the disclosed "speech based natural language query and response environment" utilizing "domain information" is "improving the reliability of determining the context and presenting the expected results for a particular question or command"); SmartKom, 269-275 (teaching that "speakers may not always be aware of the potential ambiguities inherent in their utterances" and "leave it to the context to disambiguate and specify the message"); Barbara, ¶¶96-98 (teaching that "Toto" could mean (1) the name of a dog in the pet context, or (2) the name of a restaurant in a restaurant context); Lucente, 2:6-8 ("Linguistic information may also be used to disambiguate user statements, such as those containing homonyms (for speech recognition or misspelled words) or refers to earlier identified items (e.g., "the second one")."); Beaufays [0061] ("Embodiments consistent with the present invention might employ techniques to process ambiguous requests. For example, if the request is for "roses', there might be a specific (exactly matching) search result for Rose's restaurant. However, there may be additional results for florists who sell roses (unspecific request). One technique might be to provide the matching result to the user first, followed by sponsored ads relating to the unspecific category "roses". followed by the audio documents representing the search results for the unspecific category "roses".); Baptist, 39-40, 41-42, 42-43 (discloses the use of "domains" as an improved framework in "consistency and simplicity" for identifying select words and context in a user's spoken request or command); Maddux, ¶ [0190]-[0191] (disclosing that when "user initiates a set command", the "application queries the user for the type of information"); Hodjat I, 7:19-33 and 14:47-53 (disclosing "domain" and corresponding "agents" for "interpreting a message (i.e., the agent has made a routing determination for the

message)"); Hodjat II, 2:7-24 (disclosing "agent network is organized as hierarchy of semantic domains, with each agent responsible for recognizing only references in its domain" for determining the command of the natural language user input); Treadgold, 16:56-66 (disclosing that "each of the agents in interpretation network can be thought of as having a view of its own domain" such that for example, the "Finance agent is responsible for all semantics that relate to finance (i.e., all queries in the entire application domain in this [Finance] example)"); Pukucs, 741 (disclosing "multi-domain speech understanding" for "handling distributed grammars and semantic interpretation" to interpret the user's natural language utterance), Lin, (disclosing "multi-domain spoken dialogue systems" to determine the "many topics across different domains" to determine the "user's requests correctly"); Nuance Voice Platform System, Grammar Developer's Guide at 62 (disclosing range of possible subject-matter areas for interpreting the meaning or context, which are "grammar slots to be filed with specific values" for interpreting the user's speech), Deng, 171 (MiPad uses "a domain model; it defines the entity relations of a specific domain").

Persons having ordinary skill in the art were aware of using domain information to disambiguate and select the most likely interpretation of the natural language utterance that matches the user's intent in speaking those words. *See, e.g.*, Filisko, p.27 (disclosing the "GALAXY domains, which include JUPITER [53] for weather information, MERURY [44] for flight reservations, ORION [41] for online task delegation, PEGASUS [54] for flight arrival and departure information, and VOYAGER [17] for Boston area traffic and landmark information"); Baptist, 44-47, FIG. 3-1 (disclosing multiple domains such as JUPITER for weather information and domain experts that develop "knowledge bases for JUPITER in several language other than English"); Baptist, 39-40, 41-42, 42-43 (discloses framework for identifying select words and

context to determine appropriate and targeted response); Kennewick, ¶¶[0013], [0014], [0031], [0128], [0160]-[0164], [0170] (discloses that the domain information may be identified to determine the "context of a question or command," thus "improving the reliability of determining the context and presenting the expected results for a particular question or command"); Desai, ¶¶[0070], [0122]-[0126], [0141], [0148], [0159]-[0163] (providing an "interactive voice response system" to determine the user's uttered request by analyzing "users spoken utterance" that is "matched with an index of destinations,"); Coffman, 6:46-67, 18:45-19:18 (providing the use of "dialog managers and arbitrators" that determine user's intent by identifying "additional information such as transaction history, current context etc.").

Accordingly the Disambiguation Prior Art was known work in the same field of computer technology. Design incentives such as increasing the accuracy of disambiguating the multiple possible meanings of the user's natural language utterance and determining the most likely interpretation of that utterance would have motivated a POSITA to incorporate features taught by such prior art in predictable ways. Incorporating domain information, for example, to mitigate problems associated with interactive speech systems misinterpreting a user utterance that maty be ambiguous because it has different meanings in different contexts. Combinations with Disambiguation Prior Art would (1) involve the combination of known methods (e.g., determining the applicable domains for interpreting an utterance) to yield predictable results (e.g., interpreting an utterance in a particular domain); 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.

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 the Product/Service Recommendation Prior Art with the Interactive Speech Prior Art and Interactive Speech Architecture Prior Art because such persons were aware that context recognition could be used to identify advertisements that are related to the context of a user's utterance to target advertising in a more effective and efficient manner. Such persons would have also recognized that leveraging an understanding of the context of a user's request to identify and target relevant advertisements would be useful to enhance brand awareness and product sales based on advertisements.

Persons of ordinary skill would have been motivated to combine the Interaction Tracking Prior Art with the Product/Service Recommendation Prior Art because tracking user interactions with advertisements allows advertises to measure a user's engagement with advertisements, assess the effectiveness of their advertisements, and improve effectiveness. For example, persons of ordinary skill would have recognized that tracking user interactions with advertisements would allow advertisers to build user profiles and then enhance engagement by providing users with advertisements selected based on context information derived, in part, from a users' profiles.

Persons having ordinary skill in the art would have also been motivated to combine the Interaction Tracking Prior Art with the Interactive Speech Prior Art and Interactive Speech Architecture Prior Art for the same reasons discussed above regarding the Product/Service Recommendation Prior Art.

Persons of ordinary skill would have been motivated to combine Word Recognition Prior Art with the Interactive Speech Prior Art and Interactive Speech Architecture Prior Art because such persons were aware that phoneme-based techniques to recognize the words of a user's utterance can provide accurate and/or precise speech recognition relative to other techniques. Such persons would recognize that these phone-based word recognition techniques could be incorporated in the automatic speech recognition component of Interactive Speech Prior Art and Interactive Speech Architecture Prior Art. Such persons would have known that accurate and precise speech recognition 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 speech recognition. Persons having ordinary skill in the art would have also been motivated to combine the Word Recognition Prior Art with the Product/Service Recommendation Prior Art and Interaction Tracking Prior Art because improved speech recognition improves downstream functionality such as determining the context of the user's request based on the recognized words and providing an advertisement that is related to the user's request.

Persons of ordinary skill would have been motivated to combine the Misrecognition Prior Art with the Interactive Speech Prior Art and Interactive Speech Architecture Prior Art because such persons were aware that detecting misrecognition of a user's utterance and correcting the interpretation can improve speech recognition, improve a dialog with a user, and increase user

engagement and use of interactive speech systems. Persons having ordinary skill in the art would have also been motivated to combine the Misrecognition Prior Art with the Product/Service Recommendation Prior Art and Interaction Tracking Prior Art because detecting and correcting a misrecognition of a user's utterance would result in providing an advertisement that is related to the user's request as opposed to an irrelevant advertisement based on the misrecognition of the user's request.

Persons of ordinary skill would have been motivated to combine the Disambiguation Prior Art with the Interactive Speech Prior Art and Interactive Speech Architecture Prior Art because such persons were aware that using domain information to disambiguate the most appropriate context for the recognized words of the user's utterance would improve the accuracy of identifying the user's intent in speaking the words of the natural language utterance. Such persons would have known that accurate and precise identification of the appropriate context of the user's request 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 when the systems fail to understand the users' intent.

2. Exemplary Obviousness Combinations

For at least the reasons described above, it would have been obvious to one of ordinary skill in the art to combine each prior art reference identified in the Invalidity Claim Charts with any other reference or references identified in Appendices A-1–A-33, B-1–B-37, C-1–C-35, D-1–D-5, E-1–E-32, and F-1–F-32, and IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-00869, along with the knowledge of one of ordinary skill in the art to arrive at the inventions claimed in the Asserted Patents.

Although Samsung reserves the right to rely on any combination of the references reflected in its charts or incorporated herein by reference, Samsung provides the following exemplary and

non-exhaustive references and/or combinations evidencing invalidity of the claims of the Asserted Patents. The combinations of prior art listed below render obvious the Asserted Claims under the proper construction of the claims and/or under Plaintiff's apparent interpretation of the claims as set forth by Plaintiff in its Complaint and its Infringement Contentions. Moreover, Samsung expressly incorporates into these Invalidity Contentions the combinations that Samsung identified and discussed in the IPR petitions that Samsung filed as to each of the Asserted Patents. IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-00869.

a. The '681 Patent

Table 4A: Exemplary Obviousness Combinations for the Asserted Claims of the '681 Patent

Claims	Combinations
1-9, 11-36	SmartKom+Kobsa
1, 5-8, 11-13, 17-20, 23-25, 29-32, 35-36	Barbara+Ross
2-4, 9, 14-16, 21, 26-28, 33	Barbara+Ross+O'Neill
10, 22, 34	Barbara+Ross+Franco

(1) Combination 1 – SmartKom + Kobsa

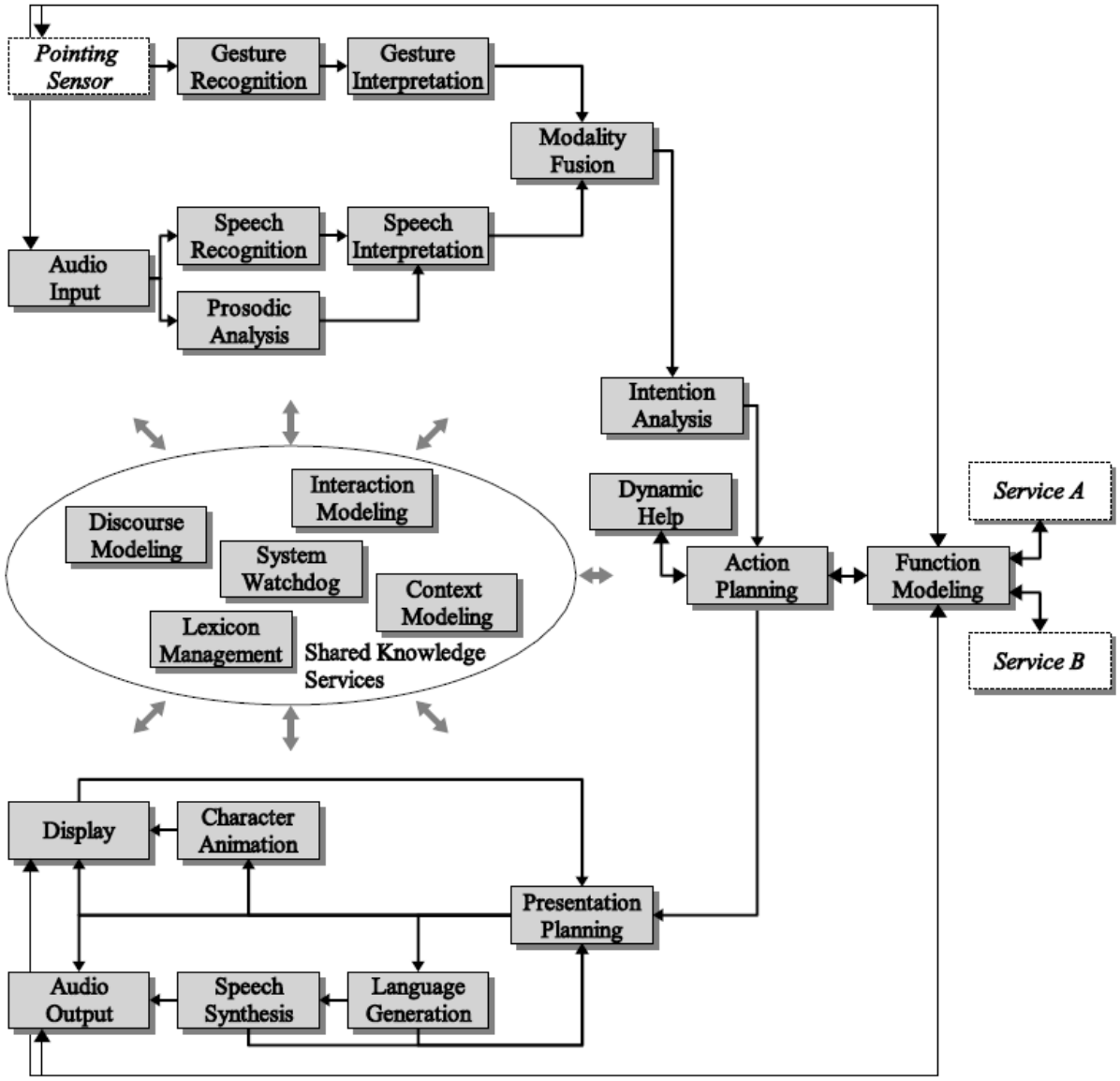
(a) Combination Overview

(i) SmartKom

SmartKom "provides a comprehensive overview" of the SmartKom system and research results developed as part of the SmartKom initiative, begun in spring 1999. (SmartKom, VI, 31-32.) The SmartKom system "provides full symmetric multimodality in a mixed-initiative dialogue system with an embodied conversational agent." (SmartKom, 3.) The generic software architecture provides a set of functional components, each represent a "processing unit[] of the executing system." (SmartKom, 59, Figure 2 (60)[70](below).) SmartKom describes three exemplary

[70] Because SmartKom is a series of papers, Figure numbers are reused. Samsung therefore provides the page number in the Figure label.

application scenarios SmartKom-Public (SmartKom, 63-64), SmartKom-Home (SmartKom, 65-66) and SmartKom-Mobile (SmartKom, 66-67)) derived from this generic architecture. The shaded components indicate components "reused in all application cases." (SmartKom, 59.)



SmartKom, Figure 2(60)

(ii) Kobsa

Kobsa "provide[s] a rather coherent survey of the field of user modeling." (Kobsa, V.) Kobsa describes "user models" which are each a knowledge source "contain[ing] explicit

assumptions of all aspects of the user that may be relevant to the dialog behavior of the system." (Kobsa, 6.) Kobsa presents several exemplary user models storing user information (e.g., user domain expertise) and describes user modeling components which "incrementally construct a user model," "store, update and delete entries" and "supply other components of the system with assumptions about the user." (Kobsa, 6.)

(b) Motivation to Combine

A POSITA would have been motivated to combine Kobsa's teachings regarding user models and user modeling with SmartKom's dialogue system. Kobsa is in the same field as the SmartKom and the '681 patent—speech recognition systems. (681 patent, 1:7-8; SmartKom, 3 (SmartKom "represents a new generation of multimodal dialogue systems"); Kobsa, 4 (describing user models "in natural-language dialog systems"))

SmartKom explicitly motivates the combination, mentioning use of a user model and/or user profiles/preferences in its context modeling and presentation planning. (*See, e.g.*, SmartKom, 16 (use of user model by the presentation planner), 274 (use of user model in context modeling), 407 ("Given an appropriate user model, personal preferences … can be used.")) SmartKom also mentions storing preferences stated by a user during a conversation. (*See* SmartKom, 336.) However, SmartKom provides limited additional details regarding the content of the user models and techniques for user modeling. Accordingly, based on the suggestions in SmartKom, a POSITA would have been motivated to search for references that describe user models and would have been led to Kobsa which provides a "coherent survey" of the topic. (Kobsa, V.) Kobsa is co-edited by Wolfgang Wahlster who edited SmartKom and is Scientific Director of the SmartKom project, further leading a POSITA to Kobsa for further details of user models. (*Id.*)

Kobsa also motivates the combination describing benefits of user models for "interact[ing] with people in an intelligent and cooperative manner." (Kobsa, 411.) Kobsa stresses that user

models allow the system to "tailor[] object descriptions to the user's level of expertise" and "adapt[] an expert system's response behavior to the background knowledge of its users." (Kobsa, 196, 416.) A POSITA would have therefore been motivated to add Kobsa's teachings into SmartKom to improve the user experience by providing user-specific and tailored responses.

The combination is also nothing more than use of a known technique (Kobsa's user models and user modeling) to improve similar devices (SmartKom's dialogue system) in the same way (providing any additional knowledge source of interpretation and response generation). *KSR Int'l Co. v. Teleflex Inc.,* 550 U.S. 398, 417 (2007).

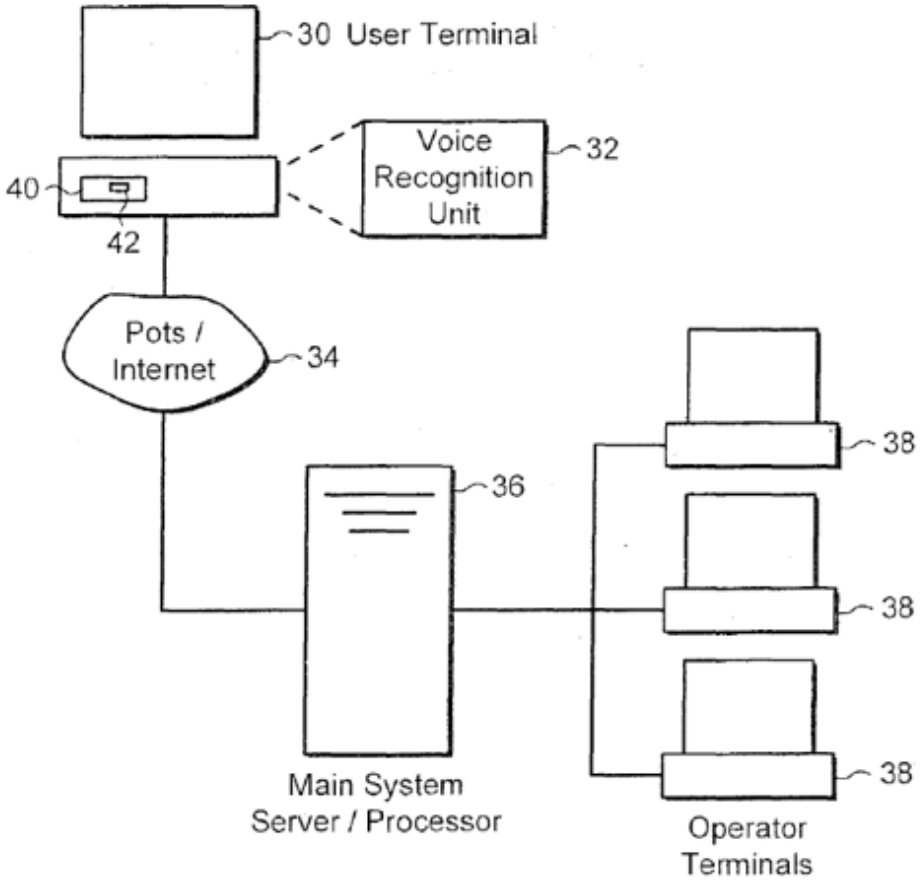
A POSITA would have had a reasonable expectation of success and the results of the combination would have been predictable because SmartKom uses a standard software architecture and standard storage structures. (*See* SmartKom, Figure 2(60)). Kobsa's user model and user modeling components are also merely storage and software constructs. A POSITA would have therefore been able to implement Kobsa's user models/modeling based on the teachings of SmartKom with predictable results.

(2) Combination 2 – Barbara + Ross

(a) Combination Overview

(i) Barbara

Barbara's system (figure 6, below) interprets a user's spoken word (e.g., the utterance) "to determine what the user wanted, i.e. the intent of the spoken word." (Barbara, ¶82.) The system includes user terminal 30 with voice interface equipment 32 "operable to receive the spoken word and translate it into an electronic format" that is passed to processor(s) "having software for receiving, interpreting and correcting the incoming information." (Barbara, ¶¶ 83-85.) Contextual information is "captured as the user interacts with the system." (Barbara, ¶98.)



Barbara, Figure 6

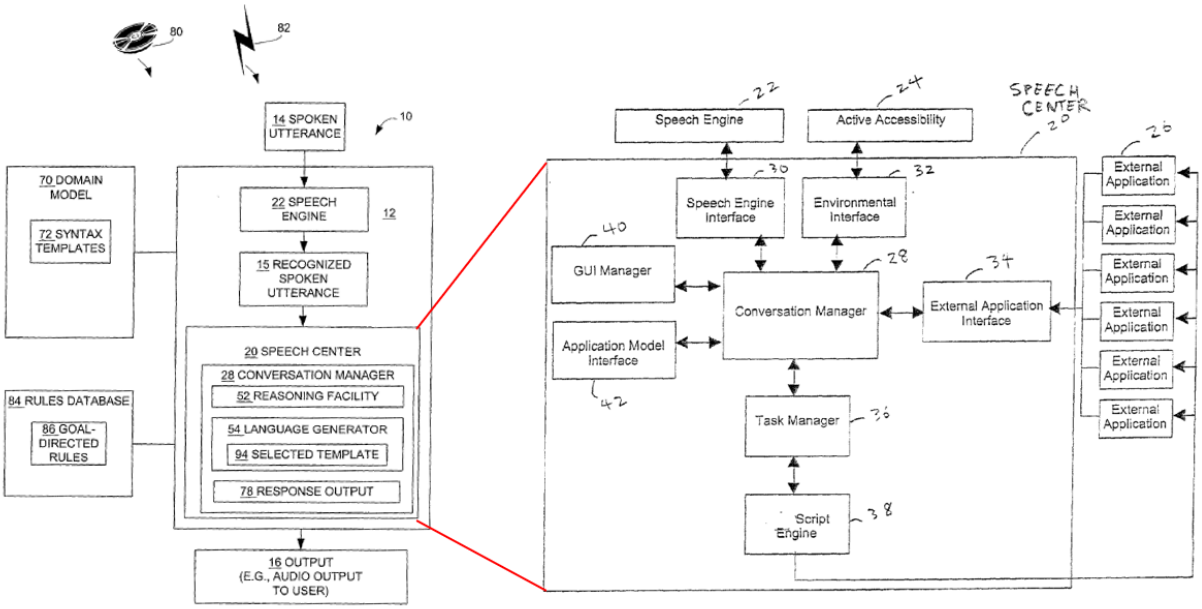
When a user's "utterance has been detected," voice recognition engine 32 provides its "best guesses" "as to what was said," and what was meant. (Barbara, ¶86.) After the correct intent is determined, the system provides a response. (Barbara, ¶¶105-107, Fig. 7.)

Barbara also provides a manual correction technique when utterances "fail[] to meet the pre-determined criteria for automatic acceptance." (Barbara, ¶¶100-104.) Notably, this operator intervention and correction "will be used heavily during" an "initial period." (Barbara, ¶102.)

(ii) Ross

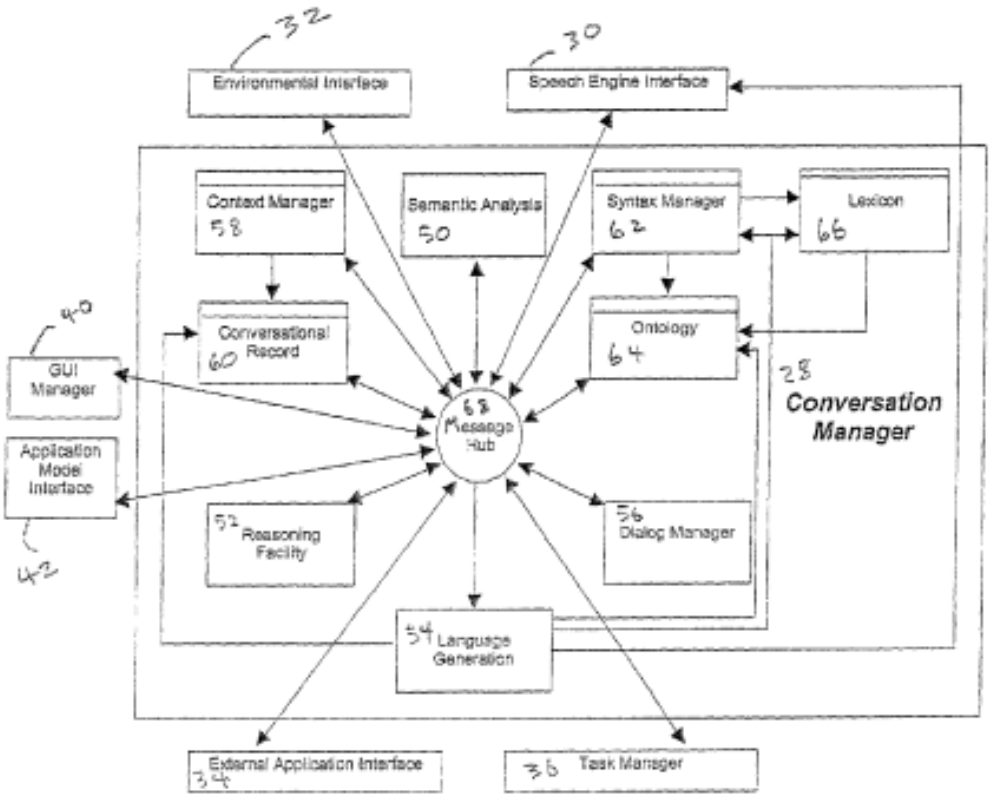
Ross discloses a "conversation manager [that] processes spoken utterances from a user of a computer, and develops responses to the spoken utterances." (Ross, Abstract.) Ross's system 10

comprises digital processor 12 including speech engine speech center 20 having conversational manager 28. (Ross, ¶¶22-24, Figs. 1-2 (below).)



Ross, Figure 1 **Ross, Figure 2**

Conversational manager 28 includes reasoning facility 52 that "performs the reasoning process" for conversation manager 28 and is "primarily concerned with the determination of how to achieve the goals derived from the user's questions and command." (Ross, ¶56, Fig. 3 (below).) Conversation manager 28 also stores conversational record 60 including each utterance in a conversation and domain model 70. (Ross, ¶57.)



Ross's systems uses the conversational records and domain model to process utterances. (Ross, ¶22 "a natural language response output 78 to the recognized spoken utterance 15 [is] based on" domain model 70, rules database 84, and syntax template 94).) Ross however notes that "[c]onversational speech is full of implicit and explicit references back to people and objects that were mentioned earlier." (Ross, ¶57.) To understand such sentences, speech center 20 "looks at the **conversational record 60**, and finds the missing information." (Ross, ¶57.)

(b) Motivation to Combine

While Barbara discloses a "server" to process utterances, it lacks details regarding the server's architecture. A POSITA would have been motivated to combine Ross's teachings regarding the architecture of a conversation manager with Barbara's voice interface system.

Barbara and Ross are analogous art to the ’681 Patent. Each pertains to the same field of endeavor, i.e., speech recognition systems. (*Compare* 681 patent, 7:24-33 *with* Barbara, ¶7 *and* Ross, Abstract.)

Barbara motivates the combination. For example, Barbara discloses the system “may either speak back or perform some action … or both” in response to an utterance. (Barbara, ¶107.) But, Barbara lacks details about how to generate such a response. A POSITA would have been motivated to search for a reference with such implementation details and would have been led to Ross which provides robust disclosure of its conversation manager including response generation. That is, a POSITA would have been motivated to combine Barbara with Ross to provide a system with flexible response generation capabilities.

While Barbara discloses use of an “information database” and “knowledge base” to interpret utterances, Barbara provides limited detail regarding managing the information in those data stores. Ross discloses creating conversational records for storing a dialog history between the user and system including each user utterance and the system’s interpretation. (Ross, ¶57.) Ross further teaches that this conversational information “is eventually purged from the conversational record when it is no longer relevant to active goals.” (*Id.*) Implementing Ross’s teachings regarding purging information from the “conversational record” allows Barbara’s dialog history to be expired and long-term data to be retained. A POSITA would understand this data management approach improves storage efficiency and reduces need for extensive hardware storage.

Finally, the combination is nothing more than the application of a known technique (Ross’s conversation manager and data storage) to a known device (Barbara’s voice interface system) ready for improvement for the reasons discussed above.

A POSITA would have had a reasonable expectation of success and the results of the combination would have been predictable. The Barbara-Ross combination would merely implement Barbara's knowledge base to use Ross's conversation records which expire, releasing memory space and Ross's conversation manager teachings including response generation components. Integrating Ross's teachings into Barbara's system would have been well within the skill set of a POSITA because the combination involves software and data storage, concepts well understood before the earliest priority date of the '681 patent.

(3) Combination 3 – Barbara + Ross + O'Neill

(a) Combination Overview

O'Neill discloses a "system for conducting a dialogue with a user" using a Discourse Manager implementing "a strategy for confirming the semantic contents of a user's utterances." (O'Neill, Abstract, ¶¶105, 110.) For example, the DiscourseManager determines the response "to new, modified or negated information from the user" and "ensures that the information is at least implicitly confirmed." (O'Neill, ¶111.)

O'Neill further discloses a structure for "knowledge-storing components." (O'Neill, ¶¶172-73.) Specifically, O'Neill discloses that the DiscourseManager "maintain[s] a record of the evolving dialogue in the form of a stack (i.e. the DiscourseStack 123) of dialogue frames." (O'Neill, ¶174.)

(b) Motivation to Combine

A POSITA would have been motivated (i) to combine O'Neill's teachings to confirm what a user has spoken to verify a received utterance with the Barbara-Ross system and (ii) combine O'Neill's teaching regarding storing utterances of an on-going conversation in a stack with Ross's teaching of storing dialog history in a "conversational record."

A POSITA would have been motivated to make these combinations for numerous reasons. First, the Barbara-Ross system invites the combination because it lacks the ability to confirm with the speaker a received utterance that the system is unable to interpret. (Barbara, ¶110.) A POSITA would have understood such a capability is desirable to improve the user's experience when an utterance is incomplete, environmental noise impairs the system's ability to interpret the utterance, or the utterance is insolubly ambiguous. McTear, for example, stresses it is "necessary in spoken dialogues with computers [to perform verification] given the possibility of recognition and understanding errors." (McTear, 119.) O'Neill further confirms the motivation, noting its system performs verification of a user's intention in view of "technical difficulties with speech recognition." (O'Neill, ¶110.)

Ross similarly lacks implementation details of its conversational record. A POSITA would have been motivated to implement the conversational record in the Barbara-Ross systems as a stack to improve processing efficiency in the system. O'Neill explains that the dialog history is maintained "in the form of a stack" such that "dialogue frames that can be added to or retrieved" from the stack "as required." (O'Neill, ¶174.) Implementing Ross's conversational record as a stack would index utterances according to their recency, i.e., the last utterance would be at the top. A POSITA would have been motivated to make the combination to improve processing efficiency because references (e.g., missing information/anaphora) are more likely to be found in more recent utterances than older ones, and therefore, the system need not parse many items in the conversational record.

Both modifications are nothing more than use of known technique (well-known processes for implementing speech recognition) to improve a similar device (the Barbara-Ross speech

recognition system) in the same way (implementing O'Neill's DiscourseManager to confirm the contents of a user's utterances and a stack to facilitate parsing).

Barbara, Ross, and O'Neil are analogous art to the '681 Patent. Each pertains to the same field of endeavor, i.e., speech recognition systems. (681 patent, 1:8-9; Barbara, ¶7; Ross, Abstract; O'Neill, ¶2.)

A POSITA would have had a reasonable expectation of success in the combination and the results of the combination would have been predictable. Modifying the Barbara-Ross combination in the two ways discussed above are merely details on how to implement Barbara's conversational system and would have been well within the skill set of a POSITA.

(4) Combination 4 – Barbara + Ross + Franco

A POSITA would have been motivated to combine Franco's teachings allowing a user to correct a "first hypothesis (i.e., a proposed recognition solution) based on the first utterance" (Franco, ¶14) with the Barbara-Ross system. As noted above, the Barbara-Ross interface voice interface lacks a technique for correcting an improperly interpreted utterance without manual/operator intervention.

Both Barbara and Franco recognized the need to incorporate error correction in a voice interface system: (Barbara, ¶3 ("the voice recognition software available at present is limited in its usefulness, primarily because it is not yet sophisticated or intelligent enough to be able to eliminate errors"); Franco, ¶5 ("need in the art for a method and apparatus for error correction in speech recognition applications." (Franco, ¶5.) A POSITA would have been motivated to incorporate Franco's automated solution to remove the need for human operators which reduces costs and improves the speed and useability of the Barbara-Ross combination.

The results of the combination would have been predictable to a POSITA and the POSITA would have had a reasonable expectation of success because Franco discloses that its error

recognition module can be "implemented as a physical device or subsystem that is coupled to a processor through a communication channel." (Franco, ¶27.)

Barbara, Ross, and Franco are analogous art to the '681 Patent. Each pertains to the same endeavor, i.e., speech recognition systems. (*Compare* the '681 Patent, 7:24-33 *with* Barbara, ¶¶7, 12, 82 *and* Ross, ¶Abstract *and* Franco, ¶2.)

In the combination using Franco's error correction technique, when the user recognizes an incorrect interpretation was made by the system, they could repeat either "How's Tokyo" or "Tokyo." A POSITA would have understood the "conversational record" in the Barbara-Ross-Franco system ("*short-term shared knowledge*") retains the "*multiple preliminary interpretations of the utterance*" because Ross discloses "[e]ach utterance is indexed in the conversational record 60, **along with the results of its semantic analysis**." (Ross, ¶57.) However, when the modified Barbara-Ross-Franco system determines "the need for a correction of the first hypothesis" (Ross, ¶15), the interpretation "How's Toto doing" would be removed from the short-term memory, because Ross discloses "information is eventually purged from the conversational record **when it is no longer relevant to active goals**" (Ross, ¶57) and that initial interpretation is no longer relevant to the active goal of determining the interpretation of the utterance "How's Tokyo doing."

b. The '341 Patent

Table 4B: Exemplary Obviousness Combinations for the Asserted Claims of the '341 Patent

Claims	Combinations
1-18	SmartKom+Kobsa
1-18	Barbara+Ross

(1) Combination 1 – SmartKom + Kobsa

Samsung provides notice to Plaintiff that the asserted claims of the ’341 patent are rendered obvious by the combination of SmartKom and Kobsa, as identified in Appendices B-5 and B-6. Based on the reasons identified in Section IV.B.2(a), a POSITA would have been motivated to combine Kobsa’s teachings regarding user models and user modeling with SmartKom’s dialogue system. Samsung expressly incorporates Section IV.B.2(a)’s description of SmartKom and Kobsa, and the motivation to combine the references into this Section. Appendices B-5 and B-6 show that SmartKom and Kobsa individually anticipate and/or can be properly combined in multiple ways to demonstrate the obviousness of the Asserted Claims of the ’341 patent. Various combinations of the references would have naturally been considered as part of the exercise of ordinary skill by one skilled in the art.

(2) Combination 2 – Barbara + Ross

Samsung provides notice to Plaintiff that the asserted claims of the ’341 patent are rendered obvious by the combination of Barbara and Ross, as identified in Appendices B-7 and B-8. Based on the reasons identified in Section IV.B.2(a), a POSITA would have been motivated to combine Ross’s teachings regarding the architecture of a conversation manager with Barbara’s voice interface system. Samsung expressly incorporates Section IV.B.2(a)’s description of Barbara and Ross, and the motivation to combine the references into this Section. Appendices B-7 and B-8 show that Barbara and Ross individually anticipate and/or can be properly combined in multiple ways to demonstrate the obviousness of the Asserted Claims of the ’341 patent. Various combinations of the references would have naturally been considered as part of the exercise of ordinary skill by one skilled in the art.

c. The ’699 Patent – Combinations

Table 4C: Exemplary Obviousness Combinations for the Asserted Claims of the ’699 Patent

Claims	Combinations
1-22	SmartKom+Kobsa
1-22	Barbara+Ross

(1) Combination 1 – SmartKom + Kobsa

Samsung provides notice to Plaintiff that the asserted claims of the ’699 patent are rendered obvious by the combination of SmartKom and Kobsa, as identified in Appendices C-5 and C-6. Based on the reasons identified in Section IV.B.2(a), a POSITA would have been motivated to combine Kobsa’s teachings regarding user models and user modeling with SmartKom’s dialogue system. Samsung expressly incorporates Section IV.B.2(a)’s description of SmartKom and Kobsa, and the motivation to combine the references into this Section. Appendices C-5 and C-6 show that SmartKom and Kobsa individually anticipate and/or can be properly combined in multiple ways to demonstrate the obviousness of the Asserted Claims of the ’699 patent. Various combinations of the references would have naturally been considered as part of the exercise of ordinary skill by one skilled in the art.

(2) Combination 2 – Barbara + Ross

Samsung provides notice to Plaintiff that the asserted claims of the ’699 patent are rendered obvious by the combination of Barbara and Ross, as identified in Appendices C-7 and C-8. Based on the reasons identified in Section IV.B.2(a), a POSITA would have been motivated to combine Ross’s teachings regarding the architecture of a conversation manager with Barbara’s voice interface system. Samsung expressly incorporates Section IV.B.2(a)’s description of Barbara and Ross, and the motivation to combine the references into this Section. Appendices C-7 and C-8 show that Barbara and Ross individually anticipate and/or can be properly combined in multiple

ways to demonstrate the obviousness of the Asserted Claims of the ’699 patent. Various combinations of the references would have naturally been considered as part of the exercise of ordinary skill by one skilled in the art.

d. The ’765 Patent – Combinations

Table 4D: Exemplary Obviousness Combination for the Asserted Claims of the ’765 Patent

Claims	Combinations
1-14	Smith & Hipp and Guinn

(1) Combination 1 – Smith & Hipp and Guinn

(a) Combination Overview

(i) Smith & Hipp

Smith & Hipp discloses a voice dialog system with capabilities such as “problem solving, natural language input and output, a user model, variable initiative, and the use of expectation for speech error correction and plan recognition.” (Smith & Hipp, 281.) The system is designed to support real-time dialog in task domains such as electronic circuit repair and is capable of generating responses, managing user input, switching between dialog threads, and modeling user knowledge.

Smith & Hipp discloses that its system may operate using four different levels (or modes) of dialog initiative, covering a spectrum ranging from the computer having complete control to the user having complete control: (1) directive; (2) suggestive; (3) declarative; and (4) passive. (Smith & Hipp, 282-83.)

In **directive** mode, the computer is the leader and maintains control of the conversation at each step: “The computer has complete dialog control. It recommends a subgoal for completion and will use whatever dialog is necessary to obtain the needed item of knowledge related to the subgoal.” (Smith & Hipp, 282.)

On the other end of the control spectrum is **passive** mode, where the *user* is the leader and controls the conversation: "The user has complete dialog control. The computer responds directly to user questions and passively acknowledges user statements without recommending a subgoal as the next course of action." (Smith & Hipp, 283.)

Suggestive and **declarative** provide "intermediate" levels of control between the user and the computer. (Smith & Hipp, 289.) In **suggestive** mode, the system still predominantly controls the dialog but in a less forceful manner—the system may propose the next subgoal or action rather than command it, and the user is allowed to make minor digressions or clarifications related to the task at hand. (Smith & Hipp, 283, 289.) In **declarative** mode, the user generally controls the conversation, but the computer remains cooperative by adding relevant information or reminders unprompted, if they might help the user. (Smith & Hipp, 283, 289.)

While Smith & Hipp discloses the use of variable initiative modes in a conversation as well as theoretically how variable initiative (switching between initiative modes) can be achieved by the system in an ongoing conversation (*see, e.g.*, Smith & Hipp, 289-90), it notes that the system can still be improved in the future with an automatic mechanism for switching initiative modes: "A number of important unsolved problems need attention to enable further progress. For example, an automatic mechanism is needed for setting the appropriate level of initiative as an interaction proceeds." (Smith & Hipp, 316.)

(ii) Guinn

Guinn "examine[s] mechanisms for automatic dialogue initiative setting." (Guinn, 278.) In particular, Guinn states, "We show how to incorporate initiative changing in a task-oriented human-computer dialogue system, and we evaluate the effects of initiative both analytically and via computer-computer dialogue simulation." (Guinn, 278.) Like Smith & Hipp, Guinn recognized that Smith & Hipp's system did not include automatic initiative switching and sought to provide

that feature: "The dialogue model of Smith (1995) allows for either the computer or the user to assume degrees of initiative; however, Smith presents no algorithm for the computer to change initiative during a dialogue. Our model of mixed-initiative dialogue allows either participant to be in control of the dialogue at any point in time." (Guinn, 278.)

In Guinn's model for mixed-initiative dialogue, "initiative levels for each goal are defined during the interaction based on 1) explicit and implicit initiative-changing utterances and 2) competency evaluation." (Guinn, 279.) Applying these two factors, Guinn investigated four initiative-setting schemes:

- "**Random**" mode, where "one agent is given initiative at random in the event of a conflict." (Guinn, 281.)
- "**SingleSelection**" mode, where "the more knowledgeable agent (defined by which agent has the greater total percentage of knowledge) is given initiative … and initiative is set throughout the dialogue." (Guinn, 281.)
- "**Continuous**" mode, where "the more knowledgeable agent (defined by which agent's first-ranked branch is more likely to succeed) is initially given initiative. If that branch fails, this agent's second-ranked branch is compared to the other agent's first-ranked branch with the winner gaining initiative." (Guinn, 281.)
- "**Oracle**" mode, where "an all-knowing mediator selects the agent that has the correct branch ranked highest in its list of branches." (Guinn, 281)

Guinn's study on automatic initiative switching concluded that "SingleSelection and Continuous modes perform significantly better than Random mode. On average Continuous mode results in 40% less branches searched per goal than Random" and "Continuous mode performs between 15-20% better than SingleSelection." (Guinn, 281-82.)

(b) Motivation to Combine

A POSITA would have been motivated to integrate Guinn's automatic mechanism for initiative switching and selection, particularly in Continuous mode, with Smith & Hipp's voice dialog system for a number of reasons.

First, Smith & Hipp expressly motivates the combination by identifying an "important unsolved problem[]" in its system, which is achieving the described automatically switching between initiative modes: "A number of important unsolved problems need attention to enable further progress. For example, **an automatic mechanism is needed for setting the appropriate level of initiative as an interaction proceeds**." (Smith & Hipp, 316.) A POSITA would therefore be motivated look to other references, like Guinn, to address this important unsolved problem in Smith & Hipp's system.

Second, Guinn also recognizes this motivation, noting: "The dialogue model of Smith (1995) allows for either the computer or the user to assume degrees of initiative; however, **Smith presents no algorithm for the computer to change initiative during a dialogue**." (Guinn, 278.) Given this, a POSITA would understand Guinn's teachings to be directly applicable to the system disclosed in Smith & Hipp. Notably, Guinn confirms that its teachings resolve the implementation problem identified by Smith & Hipp: "Our model of mixed-initiative dialogue allows either participant to be in control of the dialogue at any point in time." (Guinn, 278.)

The results of the combination would have been predictable, and a POSITA would have had a reasonable expectation of success, because Smith & Hipp recognizes the need for improvement by adding an automatic initiative switching mechanism, and Guinn's research was expressly intended to improve the Smith & Hipp system. (Smith & Hipp, 316; Guinn, 278.)

e. The ’176 Patent – Combinations

Table 4E: Exemplary Obviousness Combinations for the Asserted Claims of the ’176 Patent

Claims	Combinations
1-2, 9-11, 27-28, 35-37	Taschereau and Hansen
12-18, 25-26, 38-44, 51-52	Taschereau, Hansen, and Franco
3-8, 19-24, 29-34, 45-50	Taschereau, Hansen, and Jones
1-52	Ramer and Cross

(1) Combination 1 – Taschereau and Hansen

(a) Combination Overview

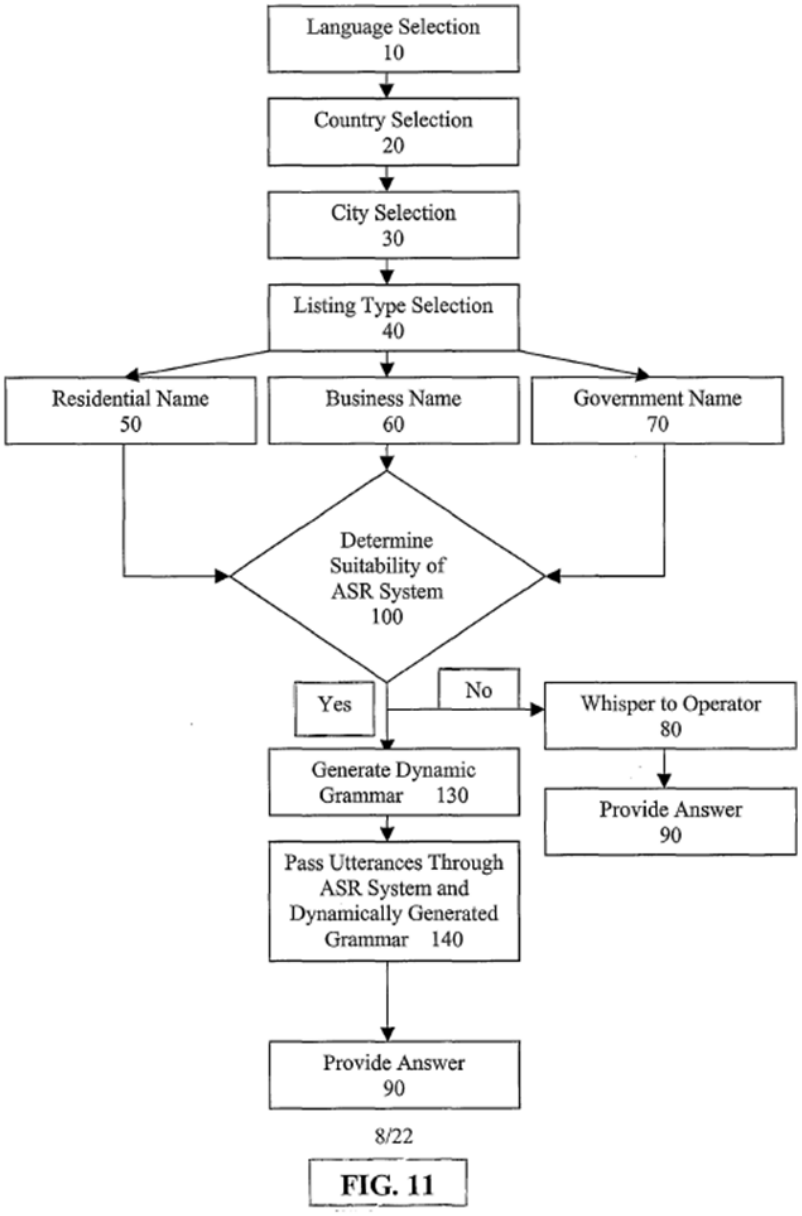
(i) Taschereau

Taschereau discloses a speech recognition and response system for telephone directory assistance services. (Taschereau, Abstract.) The system uses an automatic speech recognition (ASR) system which outputs a preliminary interpretation which then passes multiple times through a “dynamically generated grammar” for further contextual analysis. (Taschereau, 7:24-16:3; Fig. 11.)

An example of such contextual analysis is selecting a targeted advertisement to present to directory assistance callers while on hold. “[W]hen a request is made for a restaurant in a certain geographic area, a competitor could present an advertisement with an inducement (e.g. a coupon or the like) in an attempt to lure that customer to a different establishment. By using the **information available about the user** and **the listing the user is looking for**, very precise advertisements can be presented to the user.”[71] (Taschereau, 25:5-11).

Figure 11 depicts an exemplary voice recognition system. (Taschereau, 6:1-2.)

[71] All emphasis added unless indicated otherwise.



Taschereau, Figure 11

(ii) Hansen

Hansen discloses "speech recognition" systems (Hansen, 1:8-10) that "identify[] the phoneme sound types that are contained within an audio speech signal" (Hansen, Abstract). "Once the sound recognition processor circuitry 16 has extracted the corresponding phoneme sounds, it programmably invokes a series of linguistic program tools. In this way, the processor circuitry 16

translates the series of identified phonemes into the corresponding syllable, word or phrase." (Hansen, 5:30-35) A Linguistic Processor generates one or more word possibilities and sends them to a Command Processor which "receives each word, and determines the manner by which it should be used on the host computer." (Hansen, 27:38-41; 27:44-49).

(b) Motivation to Combine

A POSITA would have been motivated to incorporate teachings concerning Hansen's speech recognition implementation into the Taschereau speech recognition system for numerous reasons. First, Taschereau does not disclose how its ASR system converts speech to text. A POSITA would have therefore been motivated to search for references providing such details. A POSITA would have been led to Hansen which discloses well known speech recognition processing techniques.

Second, a POSITA would have been motivated to make the above combination to improve the speech recognition system, a motivation expressly stated in Taschereau. Taschereau teaches that "[t]he ASR system can also be improved through additional audio processing in addition to or in place of gain control, for example by examining and adjusting for attributes particular to the utterance to be recognized . . . ." (Taschereau, 18:6-9).

Finally, the combination is nothing more than the application of a known technique (mapping phonemes to syllables phonemically represented in an acoustic grammar as disclosed in Hansen) to a similar known system (Taschereau's ASR system) that operates in the same way (analyzing utterances through investigation of specific words and dynamic development of grammars) for the above reasons. (Taschereau, ¶ 163.)

A POSITA would have had a reasonable expectation of success in the combination and the results of the combination would have been predictable. Combining Taschereau with Hansen would merely integrate one component (mapping phonemes to syllables phonemically represented

in an acoustic grammar) into Taschereau's system of receiving and responding to user's utterances. Taschereau and Hansen are also both in the same field of the '176 patent—using speech recognition to facilitate access to information (e.g., data or files) or programs. (*See* 176 Patent, 1:66-2:2; Taschereau, 1:6-8, 4:25-27; Hansen, 27:50-28:3)

(2) Combination 2 – Taschereau, Hansen, and Franco

(a) Combination Overview

Franco describes methods and systems for "correcting errors in speech recognition systems." (Franco, [0002].) Franco includes multiple embodiments for determining that a word or phrase has been incorrectly interpreted.

One embodiment relates to a scenario where a user offers an utterance, the utterance is incorrectly recognized, and the user repeats the same utterance without being prompted to do so by the system. (Franco, [0018].) In such scenario, the method combines hypothesized interpretations of the first and second (repeated) utterance to maximize the likelihood of correct interpretation. (Franco, [0020] ("By assuming that a subsequent speaker utterance will comprise all or part of a previously spoken (**and incorrectly recognized**) utterance, the acoustic evidence from the previous and subsequent utterances can be combined in an efficient manner to produce a more accurate corrected recognition.").)

(b) Motivation to Combine

A POSITA would have been motivated to integrate the speech recognition error correction features disclosed in Franco with the speech recognition systems disclosed in Taschereau and Hansen for a number of reasons.

First, Taschereau recognizes the motivation to combine: "[a] significant limitation with ASR systems in the prior art is that as a grammar's size increases, its accuracy diminishes. This occurs because as the number of possible phonetic matches for an utterance increase, the

probability for error also increases as the differences between the various possible matches is smaller." (Taschereau, 2:1-4.) A POSITA would understand Taschereau expressing a motivation to combine its system with systems like Franco, that specialize in correcting errors in speech recognition systems.

Second, Franco also recognizes the motivation, stating that there is a "need in the art for a method and apparatus for error correction in speech recognition applications." (Franco, [0005].) A POSITA would understand that Franco is suggesting that the method of error correction disclosed in Franco was broadly applicable and could be implemented and combined with speech recognition applications, like Taschereau and Hansen.

Third, a POSITA would have been motivated to modify the recursive process in Taschereau (which includes "multiple simultaneous passes of the same utterance" (Taschereau, 19:20-20:7)) with identified "predetermined events" like a user repeating the same utterance in order to reduce processing time.

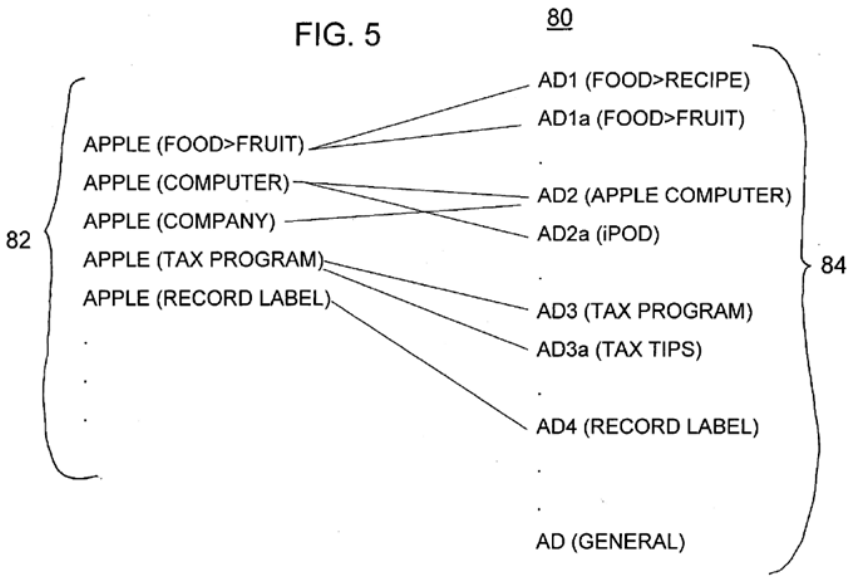
The results of the combination would have been predictable to a POSITA and the POSITA would have had a reasonable expectation of success because Franco discloses that its error recognition module can be "implemented as a physical device or subsystem that is coupled to a processor through a communication channel." (Franco, [0027].) Taschereau is implemented through the telephone system, which contains communication channels.

(3) Combination 3 – Taschereau, Hansen, and Jones

(a) Combination Overview

In Jones, "[t]argeted advertisement is provided to mobile device users based on one or more keywords spoken by the mobile device users." (Jones, Abstract.) After users "submit voice requests" to a phone-based directory assistance provider, "advertisements and/or products associated with the keyword(s) are provided to the users while the users are waiting for responses

to the requests." (Jones, Abstract.) Jones discloses identifying a context associated with an utterance as depicted in Figure 5.



Jones Figure 5

Jones further discloses the use of analytics to track user engagement with advertisements and to select advertisements to be presented. (Jones, [0033], [0063]).

(b) Motivation to Combine

A POSITA would have been motivated to integrate the advertising analytic features in Jones into the Taschereau-Hansen combination for a number of reasons.

First, Taschereau expressly provides financial motivation for the combination, noting that "[b]y selling this targeted advertising, it is possible for a service provider to provide directory assistance at a profit without charging users of the service for the calls." (Taschereau, 25:12-15.) A POSITA would have been motivated to incorporate the analytical features disclosed in Jones in order to optimize targeted advertisements to users and maximize revenue. Jones similarly discloses the goal of maximizing advertisement revenue and provides a variety of ways to monetize the

advertising feature. (Jones, [0062].) For example, Jones discloses tracking user interaction so that income from advertisements can be based on that user interaction.

Second, Taschereau and Jones each discuss the importance of being as specific as possible in targeting advertising to users of the telephone directory system. (Taschereau, 25:10-11 ("By using the information available about the user and the listing the user is looking for, very precise advertisements can be presented to the user."); Jones, [0005] ("current advertising technologies are directed to mass advertisement and do not provide customized advertisements directed to interests particular to users or their needs").) A POSITA would understand both Taschereau and Jones to recognize that the more specific and accurate the advertisements are for a particular user, the better the user experience will be.

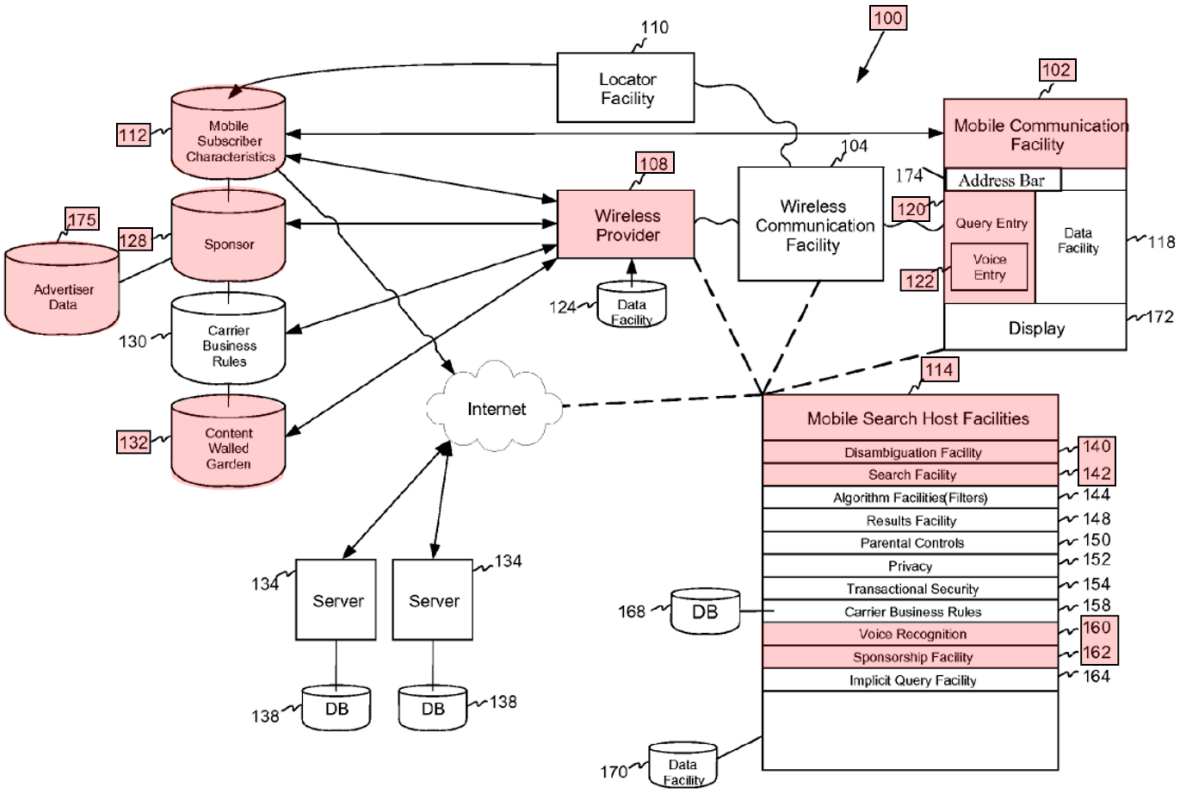
A POSITA would have had a reasonable expectation of success combining Taschereau, Hansen and Jones and the combination would have been predictable to a POSITA because each of Taschereau, Hansen and Jones use the same system architecture, namely, the use of speech recognition in conjunction with direct assistance systems.

(4) Combination 4 – Ramer and Cross

(a) Combination Overview

(i) Ramer

Ramer discloses (as shown in Figure 1) internet searching with queries input using speech recognition as well as selecting and presenting targeted advertisements to a user conducting a search. (Ramer, Abstract; 5:6-7.)



Ramer, Figure 1, annotated

The "mobile communication facility" (e.g., mobile phone) includes "speech recognition" functions for inputting information. The wireless search platform may include a "data facility containing mobile subscriber characteristics 112 pertaining to individual users," including "shopping habits," "click stream information," "content viewing history" and "transaction history." (Ramer, 8:21-48.) Ramer likewise discloses an advertising database for presenting sponsored content to users. (Ramer, 8:66-9:3 ("FIG. 1 illustrates a sponsorship facility 175 associated with a sponsor database 128 according to the principles of the present invention.")).

Ramer does not disclose how the speech recognition system is implemented. A POSITA would have looked to known ways of implementing such a speech recognition system, including those set forth in Cross.

(ii) Cross

Cross discloses a "context-based grammar for automatic speech recognition." (Cross, Abstract.) Its "ASR engine" "receives speech for recognition in the form of at least one digitized word, uses frequency components of the digitized word to derive a Speech Feature Vector ('SFV'), [and] uses the SFV to infer phonemes for the word from a language-specific acoustic model." (Cross, 6:33-38.) The acoustic model "associates SFVs with phonemes representing, to the extent that it is practically feasible to do so, all pronunciations of all the words in a particular language. The ASR engine then uses the phonemes to find the word in the lexicon." (Cross, 6:38-43.) The system then conducts a contextual analysis to confirm that the word generated by the ASR engine is the right one. (*See, e.g.*, Cross, 12:56-64).

(b) Motivation to Combine

A POSITA would have been motivated to combine the teachings of Cross regarding the specific details of context-based speech recognition, including mapping phonemes to syllables phonemically represented in an acoustic grammar, with the speech recognition driven content delivery system disclosed in Ramer. A POSITA would have been motivated to make this combination for numerous reasons. First, Ramer suggests the combination when it refers to the user of known voice recognition techniques. (Ramer, 21:22-45 ("The analog audio may in turn be converted into a digital format using, for example, an analog-to-digital converter, which digital data may be interpreted using voice recognition techniques."). Second, Cross acknowledges that its speech recognition system is well known. (*See* Cross, 9:44-49) (discussing commercially available speech recognition systems which can be modified to add the contextual analysis set forth in Cross).)

The combination is nothing more than the application of a known technique (the well-known process for implementing speech recognition) to a similar known system (Ramer's speech

recognition system that facilitates its search and targeted advertisement capability) that operate in the same way (analyzing utterances through investigation of specific words and dynamic development of grammars). The system of Ramer is ready for improvement and the simple substitution of one known element (Cross's ASR using phoneme mapping) for another (Ramer's agnostic ASR). The results of the combination would have been predictable.

f. The '536 Patent – Combinations

Table 4F: Exemplary Obviousness Combinations for the Asserted Claims of the '536 Patent

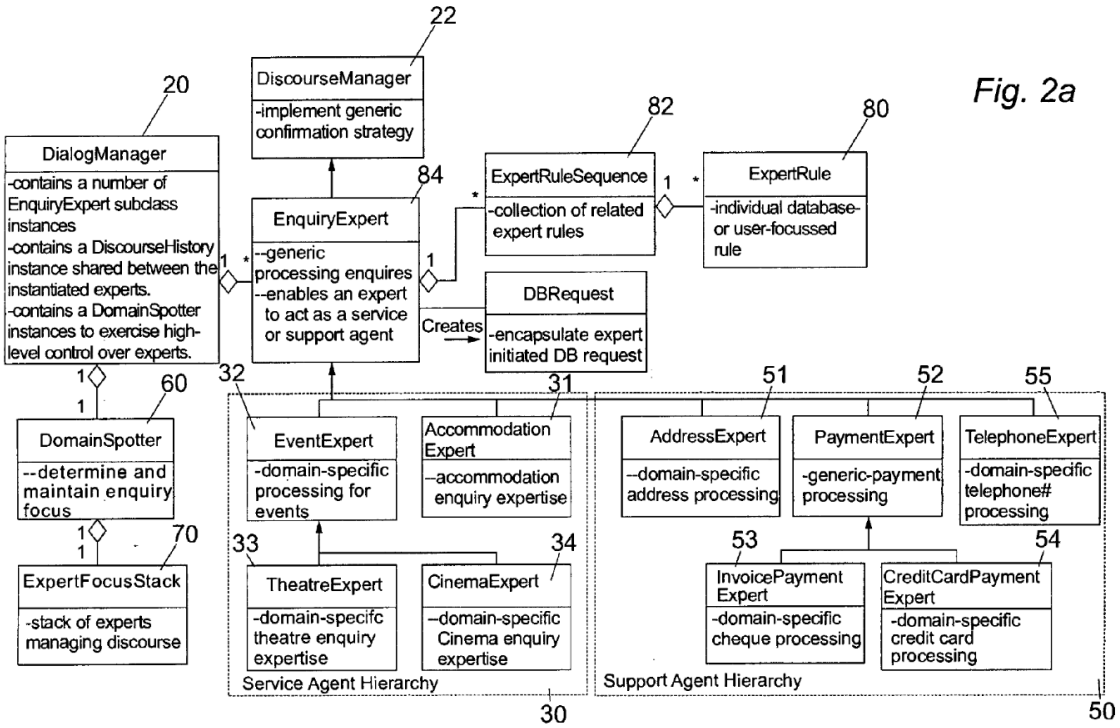
Claims	Combinations
1-12, 16-23, 30, 32, 50-55	O'Neill and Jones
13-15, 24, 33-38	O'Neill, Jones and Franco
25-26, 31, 39-43	O'Neill, Jones and Wang
27-29, 44-49	O'Neill, Jones and Howard

(1) Combination 1 – O'Neill and Jones

(a) Combination Overview

(i) O'Neill

O'Neill relates to "automatic dialogue system[s]" used to "assist telephone callers in completing a transaction in a well-defined business domain." (O'Neill, [0003].) To facilitate an interactive dialogue, O'Neill uses "agents" with "domain-specific functionality." (O'Neill, [0029]-[0032].) "Each agent is a specialist in a particular transactional area and uses its own domain-specific expert rules to encapsulate a skill-set for a substantial dialogue." (O'Neill, [0073].) The system (shown an exemplary schematic, below) can more efficiently assist users with various tasks, like booking a hotel. (*See, e.g.*, O'Neill, [0132]-[0154], [0264].)



O'Neill, Figure 2a

The system includes a DomainSpotter which determines the domain agent that is most appropriate to handle the user's request. (O'Neill, [0198], [0200].) The DomainSpotter picks the domain agent with the highest confidence score to handle the user's request. (O'Neill, [0202].)

(ii) Jones

Jones "provides targeted advertising to cellular platforms using voice recognition by identifying a keyword in a spoken phrase, looking up the keyword in an index having corresponding advertising and providing the advertising to cellular subscribers." (Jones, [0066].) The system leverages user information to determine what advertisement to provide. (Jones, [0031].) The system further tracks user engagement with advertisements, including whether a user interacted with an advertisement or purchased an advertised product. (Jones, [0032]-[0033].)

The system further uses context to interpret the meaning of a user's request, such as if a

user's request can have multiple meanings. (Jones, [0040], [0053].)

(b) Motivation to Combine

A POSITA would have been motivated to combine O'Neill's teachings regarding its interactive natural language dialogue system with the Jones system for providing targeted promotional content for numerous reasons.

First, both O'Neill and Jones suggest that their systems can be combined with other speech processing systems. (Jones, [0025] (suggesting that the Jones system may use "conventional speech-to-text processing, also known as automatic speech recognition (ASR)"); O'Neill, [0089] ("the improved dialogue manager could also be used in other automatic dialogue systems").)

Second, the systems disclosed in O'Neill and Jones are designed to assist users with requests—like locating information about businesses—using ASR. (Jones, [0023] (system designed to "receive[] voice requests or queries submitted by users … and return[] responses resulting from the processing."); O'Neill, Abstract (system designed to "receive[] a communication from a user," process the communication, "and provide[] a response to the user.").) As O'Neill and Jones are attempting to accomplish the same goal of receiving requests and responding to requests, a POSITA would be motivated to combine their teachings.

Third, adding the targeted advertising of Jones to O'Neill's interactive dialogue system would monetize the system, which the system in O'Neill is already designed to handle, as O'Neill's system includes payment processing functionality. (O'Neill, [0366]-[0370].)

Finally, the combination is nothing more than the application of a known technique (targeted advertising disclosed in Jones) to a similar known system (O'Neill's interactive dialogue system) that operates in the same way (analyzing natural language utterances to interact with user's requests).

A POSITA would have had a reasonable expectation of success in the combination and the

results of the combination would have been predictable. Combining O'Neill with Jones would merely integrate one component (targeted advertising as disclosed in Jones) into O'Neill's interactive dialogue system. O'Neill and Jones are also both in the same field of the '536 patent—using speech recognition to facilitate access to information. (*See* '536 Patent, 2:22-25; O'Neill, Abstract, [0023]-[0027]; Jones, [0009])

(2) Combination 2 – O'Neill, Jones, and Franco

(a) Combination Overview

Franco describes, through multiple embodiments, methods and systems for "correcting errors in speech recognition systems." (Franco, [0002].)

One embodiment involves a scenario where a user offers an utterance, the utterance is incorrectly recognized, and the user repeats the same utterance without prompting. (Franco, [0018].) In such scenario, the method combines hypothesized interpretations of the first and second (repeated) utterance to maximize the likelihood of correct interpretation. (Franco, [0020] ("By assuming that a subsequent speaker utterance will comprise all or part of a previously spoken (**and incorrectly recognized**) utterance, the acoustic evidence from the previous and subsequent utterances can be combined in an efficient manner to produce a more accurate corrected recognition."), [0006]).

(b) Motivation to Combine

A POSITA would have been motivated to integrate Franco's speech recognition error correction features with O'Neill's interactive dialogue system and Jones's targeted advertising system for a number of reasons.

First, O'Neill recognizes that "various modifications and variation can be made" to the O'Neill system. (O'Neill, [0423].) A POSITA would understand O'Neill expressing a motivation to combine its system with systems like Franco, that could enhance the system in O'Neill to add

correction of errors in speech recognition. O'Neill also recognizes that its system builds on the DARPA Communicator system architecture but does not provide all of the details of the operation of that system. (O'Neill, [0005]-[0019].) A POSITA would therefore be motivated look to other references, like Franco, to implement parts of O'Neill's system, like the speech recognizer and dialogue manager.

Second, Franco also recognizes the motivation, stating that there is a "need in the art for a method and apparatus for error correction in speech recognition applications." (Franco, [0005].) A POSITA would understand that Franco is suggesting that its method of error correction was broadly applicable and could be implemented and combined with speech recognition applications, like O'Neill and Jones.

The results of the combination would have been predictable and a POSITA would have had a reasonable expectation of success because Franco discloses that its error recognition module can be "implemented as a physical device or subsystem that is coupled to a processor through a communication channel." (Franco, [0027].) O'Neill and Jones are implemented through the telephone system, which contains communication channels.

(3) Combination 3 – O'Neill, Jones, and Wang

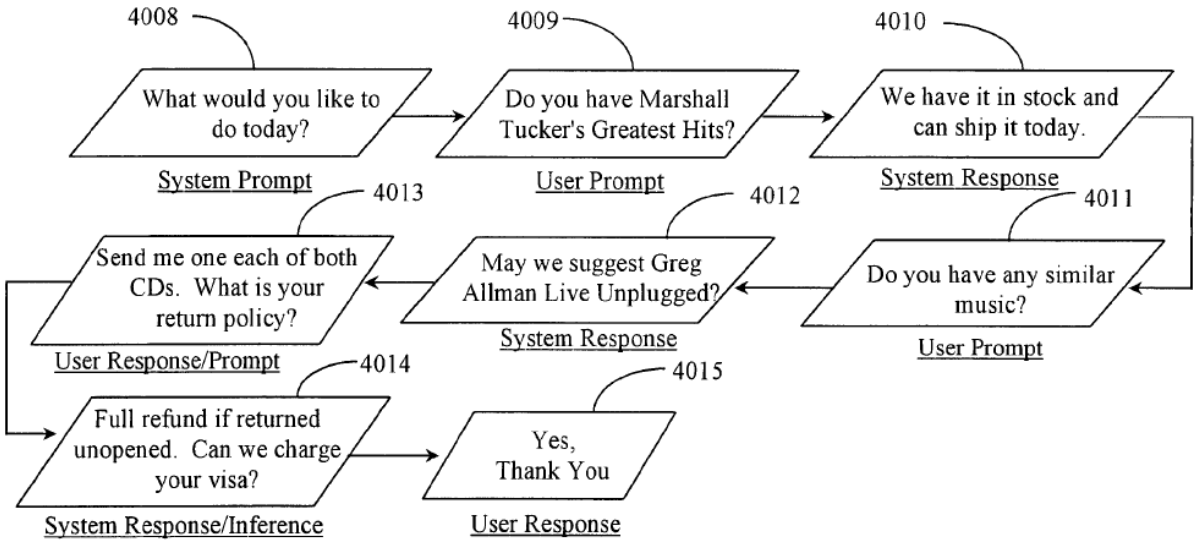
(a) Combination Overview

Wang describes a "voice application creation and deployment system" that includes a "voice application server for creating and serving voice applications." (Wang, Abstract.) In exemplary embodiments, voice applications are deployed in phone-based customer service situations such as directory assistance, banking and purchasing goods. (*See* Wang, 53:34-56:42.)

"By providing multi-slot capability and a rich semantic base for voice recognition much more work can be accomplished using less request/response interaction." (Wang, 55:50-52.) This

contrasts with the prior art where systems were unable to process two requests in a single utterance. (Wang, 55:29-48.)

Figure 40B (below) depicts a "system/client interaction dialog" using the Wang system in trying to purchase music CDs over the phone. (Wang, 55:53-55.) "At step 4012, the system makes a suggestion to the client to the effect of 'May we suggest Greg Allman Live Unplugged?'" (Wang, 56:12-14.) "At step 4013 the client responds by asking the company to send one each of both CDs, and asks about the return policy in the same dialog." (Wang, 56:16-18.) The system is thereafter able to process the transaction and answer the question regarding return policy in parallel. (Wang, 56:18-23.)



Wang, Figure 40B

(b) Motivation to Combine

A POSITA would have been motivated to combine Wang's functionality for processing multi-request utterances into the O'Neill-Jones combination for a number of reasons.

First, O'Neill recognizes that it is "apparent to those skilled in the art that various modifications and variation can be made" to the O'Neill system. A POSITA would understand

O'Neill expressing a motivation to combine its system with systems like Wang, that could enhance the system in O'Neill to understand multi-request utterances in speech recognition. Second, Wang likewise motivates the combination. Wang discloses the benefit of being able to process multi-request utterances in customer service applications, stating, in an ordering context, that the lack of such capability "requires 3 request/response interactions before an order can be successfully created." (Wang, 55:37-49.) A POSITA would therefore be motivated to incorporate Wang's teachings into the O'Neill-Jones combination which includes phone-based directory assistance (Jones) and a dialog manager (O'Neill).

The results of the combination would have been predictable to a POSITA and the POSITA would have had a reasonable expectation of success because Wang discloses that its features can be broadly implemented in "serving voice applications to clients over a communication network." (Wang, 6:38-45).

(4) Combination 4 – O'Neill, Jones, and Howard

(a) Combination Overview

Howard describes a system that "allows the user to communicate in a natural way with a variety of devices communicating with the home network or home gateway" (Howard, Abstract.) using "speech recognition and natural language parsing" to provide "a fast and far less intrusive interface for a user in selecting a particular activity" (Howard, 1:66-2:10).

Howard uses a "natural language dialog module" to "access[] the electronic activity guide or guides, interpret[] the meaning of the user's input speech and provide[] appropriate information to the network to retrieve specific information from any of the devices connected to the network." (Howard, 2:24-30.) Howard provides a summary of the system architecture in Figure 1:

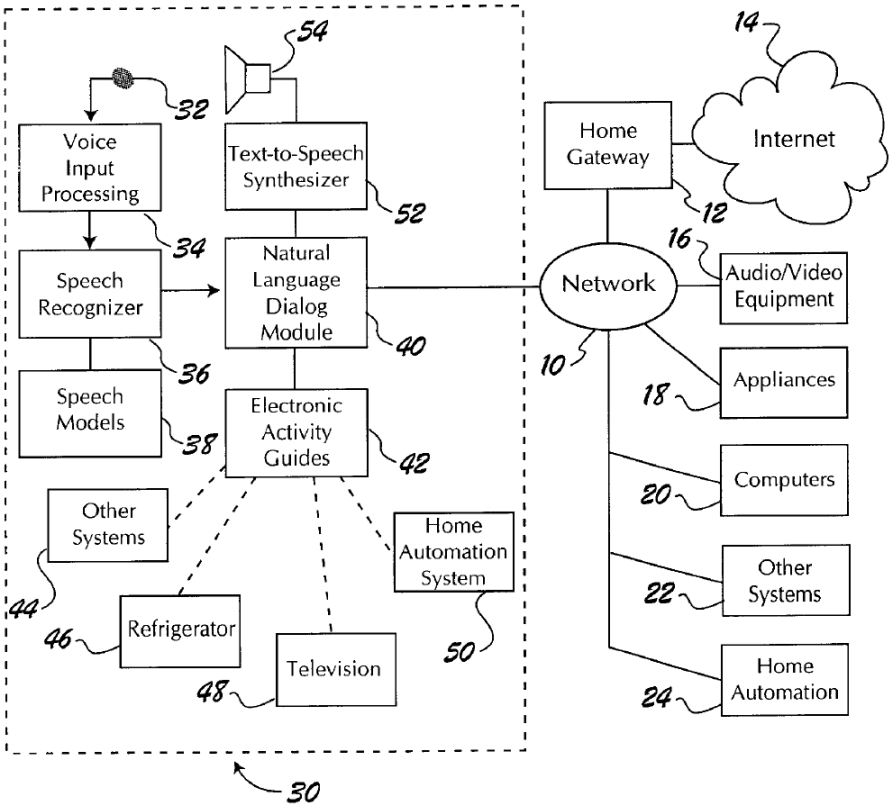


FIG. 1

Howard, Figure 1

User utterances are input from a microphone 32 and the supplied to voice input processing, which digitizes the speech. (Howard, 4:29-32.) The digitized speech is then input to the speech recognizer "to convert the spoken utterances into text form or symbolic form." (Howard, 4:40-41.) "The output of speech recognizer 36 is fed to the natural language dialog module 40." (Howard, 4:49-50.) The natural language dialog module is connected to the network 10, which connects the system to the devices 16-24. (Howard, 3:57-60.)

Each of the devices "is configured to work independent of its connection to the network." (Howard, 3:57-64.) Exemplary devices include "audio/video equipment 16, appliances 18, computers 20 and other systems 22." (Howard, 3:37-41.)

(b) Motivation to Combine

A POSITA would have been motivated to combine O'Neill's teachings regarding its interactive natural language dialogue system with Jones' teachings of targeted promotional content and Howard's teaching of a natural language dialog system that can be used to control multiple devices.

A POSITA would have been motivated to make this combination for numerous reasons. First, as discussed above, a POSITA would have been motivated to make this combination because both O'Neill and Jones suggest that their systems can be combined with other speech processing systems. (*Supra* §IV.A.3.) Howard discloses a similar speech processing system as disclosed in O'Neill, as both references use domain-specific knowledge to interpret a user utterance. (Howard, 2:51-54 ("each appliance or other device communicating over the network has an associated electronic activity guide that conforms the dialog grammar to its particular domain.").)

Second, the systems disclosed in O'Neill, Jones and Howard are designed to assist users with requests using ASR. (Howard, [0023] (system designed to "receive[] voice requests or queries submitted by users … and return[] responses resulting from the processing."); Howard, Abstract (system designed to "receive[] a communication from a user" process the communication "and provide[] a response to the user."); Howard, Abstract ("system allows the user to communicate in a natural way with a variety of devices" and synthesizes "responses to user's request.").) As O'Neill, Jones and Howard are attempting to accomplish the same goal of receiving requests, processing requests and responding to requests, a POSITA would be motivated to combine their teachings.

Third, adding the targeted advertising of Jones to the teachings of Howard would be intuitive to a POSITA. The Howard system collects information regarding categories like user's grocery store shopping lists and dinner plans. (Howard, 7:47-54.) A POSITA would be motivated

to use that valuable consumer purchasing information with the targeted advertising teachings of Jones to select more accurate promotional content to provide to users.

Finally, the combination is nothing more than the application of a known technique (using Howard's natural language system to control multiple devices) to a similar known system (O'Neill's interactive dialogue system combined with Jones' targeted advertising system) that operates in the same way (analyzing natural language utterances to interact with user's requests).

A POSITA would have had a reasonable expectation of success in the combination and the results of the combination would have been predictable. Combining O'Neill with Jones and Howard would merely integrate one component from Jones (targeted advertising) and one component from Howard (using the dialogue system to interact with multiple devices) into O'Neill's interactive dialogue system. O'Neill, Jones and Howard are also in the same field of the '536 patent—using speech recognition to facilitate user interactions. (*See* '536 Patent, 2:22-25; O'Neill, Abstract, [0023]-[0027]; Jones, [0009]; Howard, 1:66-2:10.)

3. Additional Combinations

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 Samsung may rely on such combination(s) in this litigation. In particular, Samsung is currently unaware of the extent to which Plaintiff may contend that that limitations of the claims at issue are not disclosed in the prior art identified by Samsung as anticipatory, and the extent to which Plaintiff will contend that elements not disclosed in the asserted patent specifications would have been known to persons of skill in the art. Samsung also does not yet know how the Court will construe terms in the Asserted Claims. Samsung 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. Samsung reserves the right to supplement these contentions to identify other prior art and combinations that would have made such limitations obvious.

For at least the reasons described in Section IV.B.1, it would have been obvious to one of ordinary skill in the art to combine each prior art reference identified in Appendices A-1–A-33, B-1–B-37, C-1–C-35, D-1–D-5, E-1–E-32, and F-1–F-32, and IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-00869, with any other reference or references identified in Section IV.B.1 along with the knowledge of one of ordinary skill in the art to arrive at the inventions claimed in the Asserted Patents. For example, and without limitation, the Asserted Claims would have been obvious to one of ordinary skill in the art in view of the following combinations:

a. Table 5A: Additional Prior Art Combinations for the ’681 Patent

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Roushar	• Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O’Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Lucente	• Roushar • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Visel	• Roushar • Lucente • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Moller	• Roushar • Lucente • Visel • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
SmartKom	• Roushar • Lucente • Visel • Moller • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Kobsa	• Roushar • Lucente • Visel • Moller • SmartKom • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Barbara	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Ross	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
O'Neill	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Franco	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Kennewick	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Huang	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Gadd	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Schoneburg	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Coffman	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Mitsuyoshi	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Desai	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Cooper	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Lin	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Houck	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hazen	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Portele	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Thompson	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Polish	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hodjat I	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Treadgold	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hodjat II	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Moller	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
MIT Galaxy	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
MIT Galaxy Source Code	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic
Systems Subject to Further Discovery	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Nuance Voice Platform System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic
ScanSoft United System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
SpeechWorks MINT System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
HeyAnita	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Cybermind System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
TellMe System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Microsoft MiPad System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Tel@go	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Verbomil	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
GyrusLogic	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • O'Neill • Franco • Kennewick • Huang • Gadd • Schoneburg	• Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • Moller	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil

b. Table 5B: Additional Prior Art Combinations for the ’341 Patent

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Roushar	• Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)
Lucente	• Roushar • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman • Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Visel	• Roushar • Lucente • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Moller	• Roushar • Lucente • Visel • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
SmartKom	• Roushar • Lucente • Visel • Moller • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Kobsa	• Roushar • Lucente • Visel • Moller • SmartKom • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Barbara	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Ross • Kennewick • Huang • Gadd • Schoneburg Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Ross	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Kennewick • Huang • Gadd • Schoneburg Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Kennewick	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Huang • Gadd • Schoneburg Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Huang	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Gadd • Schoneburg Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Gadd	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Schoneburg Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Schoneburg	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Coffman	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Mitsuyoshi	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg Coffman	• Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Desai	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Cooper	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Lin	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Houck	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hazen	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Portele	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Thompson	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Polish	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hodjat I	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Treadgold	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hodjat II	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
MIT Galaxy	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
MIT Galaxy Source Code	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic
Systems Subject to Further Discovery	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Nuance Voice Platform System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
ScanSoft United System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
SpeechWorks MINT System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
HeyAnita	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Cybermind System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
TellMe System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Microsoft MiPad System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Tel@go	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Verbomil	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
GyrusLogic	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Desai • Cooper • Lin • Houck • Hazen • Portele • Thompson • Polish • Hodjat I • Treadgold • Hodjat II	• MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil

c. Table 5C: Additional Prior Art Combinations for the ’699 Patent

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Roushar	• Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Lucente	• Roushar • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Visel	• Roushar • Lucente • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Moller	• Roushar • Lucente • Visel • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
SmartKom	• Roushar • Lucente • Visel • Moller • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Kobsa	• Roushar • Lucente • Visel • Moller • SmartKom • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Barbara	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Ross	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Kennewick	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Huang	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Gadd	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Schoneburg	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Coffman	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Mitsuyoshi	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Cooper	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Lin	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Houck	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hazen	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Portele	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Thompson	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hodjat I	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hodjat II	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Kellner	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
MIT Galaxy	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
MIT Galaxy Source Code	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic
Systems Subject to Further Discovery	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Nuance Voice Platform System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic
ScanSoft United System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
SpeechWorks MINT System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hey Anita	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Cybermind System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • TellMe System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic
TellMe System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • Microsoft MiPad System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Microsoft MiPad System	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Tel@go • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Tel@go	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Verbomil • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Verbomil	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman	• Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy	• MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)
GyrusLogic	• Roushar • Lucente • Visel • Moller • SmartKom • Kobsa • Barbara • Ross • Kennewick • Huang • Gadd • Schoneburg • Coffman • Mitsuyoshi • Cooper • Lin • Houck • Hazen • Portele • Thompson • Hodjat I • Hodjat II • Kellner • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • Tel@go • Verbomil

d. Table 5D: Additional Prior Art Combinations for the ’765 Patent

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)
Smith & Hipp	• Guinn • Valles • McTear • Biermann • Systems Subject to Further Discovery • GyrusLogic
Guinn	• Smith & Hipp • Valles • McTear • Biermann • Systems Subject to Further Discovery • GyrusLogic
Valles	• Smith & Hipp • Guinn

	• McTear • Biermann • Systems Subject to Further Discovery • GyrusLogic
McTear	• Smith & Hipp • Guinn • Valles • Biermann • Systems Subject to Further Discovery • GyrusLogic
Biermann	• Smith & Hipp • Guinn • Valles • McTear • Systems Subject to Further Discovery • GyrusLogic
Systems Subject to Further Discovery	• Smith & Hipp • Guinn • Valles • McTear • Biermann • GyrusLogic
GyrusLogic	• Smith & Hipp • Guinn • Valles • McTear • Biermann • Systems Subject to Further Discovery

e. Table 5E: Additional Prior Art Combinations for the ’176 Patent

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Gilbert	• Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Taschereau	• Gilbert • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hansen	• Gilbert • Taschereau • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Franco	• Gilbert • Taschereau • Hansen • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Jones	• Gilbert • Taschereau • Hansen • Franco • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Ramer	• Gilbert • Taschereau • Hansen • Franco • Jones • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Cross	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Kennewick	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Yonebayashi	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Huang	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Desai	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Cohen	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Partovi	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Jong	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Waibel	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Gadd	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)
Roy	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code • MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)
Salmenkaita	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd • Roy • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code • MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Uppaluru	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Alpdemir	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Maddux	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Kommer	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Polish	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hodjat I	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Treadgold	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)
Ogawa	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd • Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code • MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Vanbuskirk	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Chiu	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
MIT Galaxy	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)
MIT Galaxy Source Code	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd • Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
MIT Voyager	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
MIT Galaxy Video	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Orion	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
MIT FlightBrowser	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
AMT Mobile Speech Task	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Weather Query	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Nuance Voice Platform System	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
ScanSoft United System	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
SpeechWorks MINT System	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
HeyAnita	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Cybermind System	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • TellMe System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
TellMe System	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • Microsoft MiPad System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Microsoft MiPad System	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • GyrusLogic • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
GyrusLogic	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • Colledge

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Colledge	• Gilbert • Taschereau • Hansen • Franco • Jones • Ramer • Cross • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Jong • Waibel • Gadd	• Roy • Salmenkaita • Uppaluru • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Ogawa • Vanbuskirk • Chiu • MIT Galaxy • MIT Galaxy Source Code	• MIT Voyager • MIT Galaxy Video • Orion • MIT FlightBrowser • AMT Mobile Speech Task • Weather Query • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Hey Anita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

f. Table 5F: Additional Prior Art Combinations for the ’536 Patent

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Beaufays	• Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz • Portele	• Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O’Neill • Jones • Franco • Wang	• Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Lee	• Beaufays • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Kennewick	• Beaufays • Lee • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Yonebayashi	• Beaufays • Lee • Kennewick • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Huang	• Beaufays • Lee • Kennewick • Yonebayashi • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Desai	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Cohen	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Partovi	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Lin	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Waibel	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Gadd	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Coffman	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Treyz	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Portele	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Alpdemir	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Maddux	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Kommer	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Polish	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hodjat I	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Treadgold	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Hodjat II	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Pakucs	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
O'Neill	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Jones	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Franco	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Wang	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Howard	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
MIT Galaxy	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
MIT Galaxy Source Code	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic
Systems Subject to Further Discovery	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Nuance Voice Platform System	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic
ScanSoft United System	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
SpeechWorks MINT System	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
HeyAnita	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • Cybermind System • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Cybermind System	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • TellMe System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
TellMe System	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • Microsoft MiPad System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
Microsoft MiPad System	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • GyrusLogic

Reference Patent Number of Title (Primary Inventor/Author)	In Combination with One or More of: Patent Number or Title (Primary Inventor/Author)		
GyrusLogic	• Beaufays • Lee • Kennewick • Yonebayashi • Huang • Desai • Cohen • Partovi • Lin • Waibel • Gadd • Coffman • Treyz	• Portele • Alpdemir • Maddux • Kommer • Polish • Hodjat I • Treadgold • Hodjat II • Pakucs • O'Neill • Jones • Franco	• Wang • Howard • MIT Galaxy • MIT Galaxy Source Code • Systems Subject to Further Discovery • Nuance Voice Platform System • ScanSoft United System • SpeechWorks MINT System • HeyAnita • Cybermind System • TellMe System • Microsoft MiPad System

V. P.R. 3-3(D) – INVALIDITY 35 U.S.C. § 112

Pursuant to P.R. 3-3(d), Samsung hereby identifies grounds of invalidity for the Asserted Patents based on lack of written description under pre-AIA 35 U.S.C. § 112 ¶ 1 and lack of enablement under pre-AIA 35 U.S.C. § 112 ¶ 1. These contentions shall not be construed as an admission that any claim construction advanced by Samsung in this case is in any way inconsistent, flawed, or erroneous. Nor should these contentions prevent Samsung from advancing claim construction and/or non-infringement positions in lieu of, or in addition to, invalidity positions. Further, these contentions shall not be construed as an admission of or acquiescence to Plaintiff's purported construction of the claim language or of other positions advanced by Plaintiff during the course of this litigation. Samsung's invalidity contentions under pre-AIA 35 U.S.C. § 112 may

depend, in part, on the Court's claim construction, as well as Plaintiff's alleged scope of the Asserted Claims. Consequently, Samsung only identifies the issues under pre-AIA 35 U.S.C. § 112 of which they are presently aware.

A. Lack of Written Description and/or Enablement under pre-AIA 35 U.S.C. § 112 ¶ 1

One or more of the Asserted Claims, as detailed below, are invalid under pre-AIA 35 U.S.C. § 112 ¶ 1 for lack of written description and/or enablement. For example, the Asserted Patents do not provide sufficient written description support to establish that the alleged inventor(s) possessed the alleged inventions recited in the Asserted Claims. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010). In other words, the applicants did not describe their purported inventions in a manner that "reasonably conveys to those skilled in the art that the inventor had possession of the claim subject matter as of the filing date." *Id.* One of ordinary skill in the art would not have understood that the inventor(s) were in possession of the full scope of the claimed apparatuses and methods, at least as Plaintiff appears to be asserting the claims.

The specifications of the Asserted Patents also do not enable one of ordinary skill in the art to make and/or use certain recited elements of the Asserted Claims, as detailed below, without undue experimentation, at least as Plaintiff appears to be asserting those limitations. For example, to the extent they are definite under pre-AIA 35 U.S.C. § 112 ¶ 2, the specification and prosecution history of the Asserted Patents fails to sufficiently describe or enable the limitations listed below in Table 5, as required by pre-AIA 35 U.S.C. § 112 ¶ 1. *See* In re *Wands*, 858 F.2d 731, 737 (Fed. Cir. 1998); *see Wyeth & Cordis Corp. v. Abbott Laby's*, 720 F.3d 1380, 1384 (Fed. Cir. 2013).

Table 6A: Claim Limitations Not Compliant with pre-AIA 35 U.S.C. § 112[72]

Term	Relevant Claim(s)
"conversational language processor"	'176 patent, claims 1, 14, 27, 40
"wherein the interaction pattern tracked for the advertisement includes an action performed in response to a subsequent request that identifies the advertisement"	'176 patent, claims 7, 23, 33, 49
"wherein the action includes executing a task or retrieving information based on the subsequent request that identifies the advertisement"	'176 patent, claims 8, 24, 34, 50
"performing, by the one or more physical processors, speech recognition to recognize one or more words of the third natural language utterance, wherein the one or more recognized words of the third natural language utterance include one or more reference words; determining, by the one or more physical processors, that the one or more reference words refer to an item associated with the promotional content; and initiating, by the one or more physical processors, a purchase transaction associated with the item based on the determination that the one or more reference words refer to the item."	'536 patent, claim 10
"wherein the first device and the second device are operably independent of one another"	'536 patent, claims 29, 46
"obtaining, by the one or more physical processors, user profile information associated with the user, wherein the user profile information specifies prior user interactions with items; […] identifying, by the one or more physical processors, categories of items based on the prior user interactions specified by the user profile information, […]	'536 patent, claims 30, 31 '536 patent, claims 50, 53-55 (similar language)

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

Term	Relevant Claim(s)
wherein determining the promotional content comprises determining a promotional item associated with one of the categories."	
"conversational speech engine"	'681 patent, claims 1, 13, 25, 37, 39, 41
"identify[ing] a conversational goal associated with the utterance, roles associated with the user and one or more other participants in the current conversation, and an information allocation among the user and the one or more other participants in the current conversation"	'681 patent, claims 5, 17, 29
"classify[ing] one or more of the utterance or the current conversation into a conversation type based on one or more of the identified conversational goal, the identified roles, or the identified information allocation, wherein the conversational speech engine further establishes the intended meaning based on the conversation type"	'681 patent, claims 5, 17, 29
"short-term context stack"	'681 patent, claims 14-16, 26-28
"[…] populate a short-term context stack with information about the utterance received during the current conversation"	'681 patent, claims 14, 26
"[…] expire the information about the utterance from the short-term context stack after a psychologically appropriate amount of time"	'681 patent, claims 15, 27
" […] update one or more long-term profiles associated with the user to include information about the utterance received during the current conversation and relevant data associated with the information expired from the short term context stack."	'681 patent, claims 16, 28
"speech engine"	'765 patent, claims 1, 10
"determine[ing] the conversation type corresponding to the natural language utterance based on whether a user that spoke the natural language utterance has a leader role in an interaction	'765 patent, claims 1, 10

Term	Relevant Claim(s)
with the voice-enabled device or has a supporter role in the interaction with the voice-enabled device"	
"generat[ing] a response to the natural language utterance with a format based on the conversation type, wherein the format is adapted to limit the user's future input to interjecting queries or requests for clarification if the user has the supporter role"	'765 patent, claims 1, 10
"wherein determining the conversation type comprises determining a conversational goal corresponding to the natural language utterance" / "determine the conversation type further based on a conversational goal corresponding to the natural language utterance,"	'765 patent, claims 2, 4, 11, 12
"accumulating, by the computer system, short-term knowledge based on one or more natural language utterances received during a predetermined time period; expiring, by the computer system, one or more items of short-term knowledge that are based on one or more natural language utterances received prior to the predetermined time period; accumulating, by the computer system, long-term knowledge based on one or more natural language utterances received prior to the predetermined time period, wherein the long-term knowledge includes at least one of the one or more expired items of short-term knowledge;"	'341 patent, claim 1 '341 patent, claim 10 (similar language)
"accumulating, by the computer system, short-term knowledge based on one or more natural language utterances received during a predetermined time period, wherein the one or more natural language utterances received during the predetermined time period are related to a single conversation between a user and the computer system; accumulating, by the computer system, long-term knowledge, wherein the long-term knowledge is accumulated based on one or more natural language	'699 patent, claim 1 '699 patent, claim 12 (similar language)

Term	Relevant Claim(s)
utterances received prior to the predetermined time period;"	

In addition, Samsung further identifies the § 112 invalidity grounds set forth in Defendants' Final Invalidity Contentions in *VB Assets, LLC v. Amazon.com, Inc. et al.*, Case No. 1:19-CV-01410-MN (D. Del.), including those set forth at pp. 80-81, 161-164, and 296-299 thereto.

B. Indefiniteness under pre-AIA 35 U.S.C. § 112 ¶ 2

One or more of the Asserted Claims, as detailed below, are invalid under pre-AIA 35 U.S.C. § 112 ¶ 2 for indefiniteness. Under § 112 ¶ 2, "a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). All of the Asserted Claims are invalid as indefinite under § 112 ¶ 2 because they fail to inform those skilled in the art about the scope of the invention with reasonable certainty. Separately, "the second paragraph of § 112 contains two requirements: first, the claim must set forth what the applicant regards as his invention, and second, it must do so with sufficient particularity and distinctness, i.e., the claim must be sufficiently definite." *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1348 (Fed. Cir. 2002) (quotations and alterations omitted). "Where it would be apparent to one of skill in the art, based on the specification, that the invention set forth in a claim is not what the patentee regarded as his invention," the claim is "invalid under § 112, paragraph 2." *Id.* at 1349. The Asserted Claims are invalid as indefinite because it would be apparent to one of skill in the art, based on the specification, that the invention set forth in the claims is not what the patentee regarded as his invention, at least as the claims are being asserted by Plaintiff. *Id.* The Asserted Claims are also invalid under pre-AIA § 112 ¶ 2 at least because they contain elements that differ

from and/or conflict with the Asserted Patents' written description of the invention, at least as the claim elements are being asserted by Plaintiff, or because they omit elements that one of skill in the art would understand as part of the Asserted Patents' invention based on the specifications and prosecution histories. For example, the specification and prosecution history of the Asserted Patents would not have informed, with reasonable certainty, those skilled in the art about the scope of the following claim limitations.

Table 6B: Claim Limitations Not Compliant with pre-AIA 35 U.S.C. § 112[73]

Term	Relevant Claim(s)
"conversational language processor"	'176 patent, claims 1, 14, 27, 40
"ambiguous information" "ambiguous request" / "request is […] ambiguous"	'176 patent, claims 9, 17, 35, 43 '536, claims 24, 37-38
"context information"	'536 patent, claim 3
"wherein determining the promotional content comprises determining the promotional content based on the interpretation, the method further comprising: determining, by the one or more physical processors, other promotional content based on the reinterpretation; and presenting, by the one or more physical processors, the other promotional content to the user."	'536 patent, claims 15 , 35
"wherein the first device and the second device are operably independent of one another"	'536 patent, claims 29, 46
"prior user interactions with items"	'536 patent, claims 30-31, 50, 53-55
"current conversation" / "past conversations"	'681 patent, claims 1, 13, 25, 37, 39, 41

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

Term	Relevant Claim(s)
"conversational speech engine"	'681 patent, claims 1, 13, 25, 37, 39, 41
"a psychologically appropriate amount of time"	'681 patent, claims 3, 15, 27
"classify[ing] one or more of the utterance or the current conversation into a conversation type"	'681 patent, claims 5, 17, 29
"the voice"	'681 patent, claim 13
"short-term context stack"	'681 patent, claims 14-16, 26-28
"speech engine"	'765 patent, claims 1, 10
"based on whether a user that spoke the natural language utterance has a leader role in an interaction with the voice-enabled device or has a supporter role in the interaction with the voice-enabled device"	'765 patent, claims 1, 10
" wherein the format is adapted to limit the user's future input to interjecting queries or requests for clarification if the user has the supporter role"	'765 patent, claims 1, 10
"generating, if the conversation type is a didactic conversation, a response that controls the conversation and limits the user's future input to a request or query for clarification"	'765 patent, claim 3
"the short-term knowledge"	'341 patent, claims 1, 10
"adapt[ing] […] the response " "[grammatically or syntactically] adapts the response" / "[grammatically or syntactically] adapted response"	'699 patent, claims 6, 10, 17, 21 '681 patent, claims 1, 13, 25
"adapting the response to have a personality"	'699 patent, claims 10, 21

In addition, Samsung further identifies the § 112 grounds set forth in Defendants' Final Invalidity Contentions in *VB Assets, LLC v. Amazon.com, Inc. et al.*, Case No. 1:19-CV-01410-MN (D. Del.), including those set forth at pp. 80-81, 161-164, and 296-299 thereto.

VI. OTHER ISSUES

A. Invalidity under 35 U.S.C. § 101

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 ("Order Regarding Eligibility"), Samsung provides its Subject-Matter Eligibility Contentions at Appendices G-1–G-6. In Appendices G-1–G-6, which are hereby incorporated by reference as if fully set forth herein, Samsung contends that the Asserted Claims of the Asserted Patents are drawn to subject matter that is not patentable under 35 U.S.C. § 101.

Pursuant to Section (a)(1) of the Order Regarding Eligibility, Appendices G-1–G-6, contain a chart for each Asserted Patent identifying each exception to eligibility to which each Challenged Claim is directed and the factual and legal basis therefore.

Pursuant to Section (a)(2)(A) of the Order Regarding Eligibility, the charts of Appendices G-1–G-6, read in conjunction with the discussion herein, Appendices A-1–A-33, B-1–B-37, C-1–C-35, D-1–D-5, E-1–E-32, and F-1–F-32; IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-00869, and the material described, referenced, or cited in the charts, further provide 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 therefore.

Further, pursuant to Sections (a)(2)(B) and (a)(3) of the Order Regarding Eligibility, the charts of Appendices G-1–G-6, read in conjunction with the discussion herein, Appendices A-1–A-33, B-1–B-37, C-1–C-35, D-1–D-5, E-1–E-32, and F-1–F-32; IPR Nos. IPR2025-00866, IPR2025-00867, IPR2025-00868, and IPR2025-00869, and the material described, referenced, or cited in the charts, further provides: (i) a description of how each element of each Asserted Claim, both individually and in combination with the other elements of that claim, was well understood, routine, and/or conventional in the relevant industry at the relevant time and (ii) an identification

of the factual or legal basis for how the Asserted Claims are otherwise ineligible for patent protection.

Additionally, pursuant to Section (b) of the Order Regarding Eligibility, Samsung is concurrently producing or making available for inspection and copying the materials on which Samsung presently seeks to rely for subject-matter eligibility purposes. These prior art references and other materials are cited herein or in Appendices G-1–G-6. For the avoidance of doubt, Samsung may rely on the materials identified in Section III, above.

Without concession that expert testimony is necessary to resolve the subject matter eligibility of the Asserted Claims, Samsung reserves the right to further rely on expert testimony to be disclosed in accordance with the Docket Control Order.

Samsung's search for prior art references, additional documentation, and/or corroborating evidence concerning prior art systems and devices is ongoing. Accordingly, Samsung reserves the right to supplement their production as Samsung obtains additional prior art references, documentation, and/or corroborating evidence concerning subject matter eligibility during the course of discovery.

Samsung reserves the right to supplement its document production pursuant to Section (b) of the Order Regarding Eligibility as authorized by the Patent Local Rules, the Order Regarding Eligibility, or any other order of the Court.

B. Priority Date of the Asserted Patents

The Local Patent Rules do not require Samsung to identify or opine on the priority date relevant to the Asserted Claims. Further, discovery in this case is ongoing, and Samsung's investigation, collection of information, discovery, and analysis relating to this issue has not been completed. Nonetheless, Samsung notes that Plaintiff has not claimed that any Asserted Claim of the '681, '765, '341, and '699 patents is entitled to a priority date any earlier than October 16,

2006. *See* Plaintiff's Resp. to Samsung Interrogatory No. 1. Plaintiff also has not claimed that any Asserted Claim of the '176 and '536 patents is entitled to a priority date any earlier than February 6, 2007. *See id.* Samsung reserves all rights to challenge any priority date(s) to which Plaintiff contends the Asserted Claims may be entitled, including all priority date(s) identified by Plaintiff in this or any related proceedings (and whether or not so identified), including any litigations involving the same or any related patents, or related IPRs.

C. Incorrect Inventorship under 35 U.S.C. § 256

The Local Patent Rules do not require Samsung to identify or opine on the inventorship of the Asserted Claims. Further, discovery in this case is ongoing, and Samsung's investigation, collection of information, discovery, and analysis relating to this issue has not been completed. Samsung reserves all rights to challenge any inventorship to which Plaintiff contends the Asserted Claims may be entitled, including all inventors identified by Plaintiff in this or any related proceedings (and whether or not so identified), including any litigations involving the same or any related patents, or related IPRs.

VII. P.R. 3-4 – DOCUMENT PRODUCTION ACCOMPANYING INVALIDITY CONTENTIONS

Pursuant to P.R. 3-4(a), Samsung has produced and/or made available for inspection documents and other materials sufficient to show the operation of any aspects or elements of the Accused Products identified by Plaintiff in its P.R. 3-1(c) charts.

Additionally, and pursuant to P.R. 3-4(b), Samsung is concurrently producing a copy of each item of prior art identified herein. Samsung will also make available for inspection any prior art systems or devices upon request to the extent Samsung acquires such systems or devices. References that were cited during prosecution of the Asserted Patents may not be contained in Samsung's production as they are not required to be under the Local Patent Rules. Samsung's

search for prior art references, additional documentation, and/or corroborating evidence concerning prior art systems and devices is ongoing. Accordingly, Samsung reserves the right to supplement its production as Samsung obtains additional prior art references, documentation, and/or corroborating evidence concerning invalidity during the course of discovery. Samsung reserves the right to supplement its P.R. 3-4 document production pursuant to the Patent Local Rules and the orders of the Court.

Dated: April 29, 2025

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CERTIFICATE OF SERVICE

I hereby certify that the foregoing document was served via e-mail on April 29, 2025 on all counsel who have consented to electronic service.

Dated: April 29, 2025

/s/ *Douglas J.Kline*
Douglas J. Kline