# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3802848

| SUBMISSION TYPE:      | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT     |

# **CONVEYING PARTY DATA**

| Name       | Execution Date |
|------------|----------------|
| AT&T CORP. | 02/04/2016     |

# **RECEIVING PARTY DATA**

| Name:           | AT&T PROPERTIES, LLC |  |  |
|-----------------|----------------------|--|--|
| Street Address: | 645 E. PLUMB LANE    |  |  |
| City:           | RENO                 |  |  |
| State/Country:  | NEVADA               |  |  |
| Postal Code:    | 89502                |  |  |

### **PROPERTY NUMBERS Total: 64**

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 08670888 |
| Application Number: | 08759916 |
| Application Number: | 08895183 |
| Application Number: | 08775914 |
| Application Number: | 08665182 |
| Application Number: | 08845732 |
| Application Number: | 08837174 |
| Application Number: | 08835911 |
| Application Number: | 08858966 |
| Application Number: | 09075162 |
| Application Number: | 08792326 |
| Application Number: | 08863927 |
| Application Number: | 08897054 |
| Application Number: | 08905931 |
| Application Number: | 08975589 |
| Application Number: | 09018449 |
| Application Number: | 09059912 |
| Application Number: | 08960291 |
| Application Number: | 09137366 |
| Application Number: | 09097770 |
|                     |          |

PATENT REEL: 038274 FRAME: 0841

503756202

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 08953468 |
| Application Number: | 08974830 |
| Application Number: | 09056172 |
| Application Number: | 08972725 |
| Application Number: | 08972727 |
| Application Number: | 09468662 |
| Application Number: | 08971838 |
| Application Number: | 08914532 |
| Application Number: | 08934056 |
| Application Number: | 08975587 |
| Application Number: | 08978527 |
| Application Number: | 09978250 |
| Application Number: | 09107784 |
| Application Number: | 08965702 |
| Application Number: | 09096025 |
| Application Number: | 09050301 |
| Application Number: | 09058107 |
| Application Number: | 09019357 |
| Application Number: | 09097769 |
| Application Number: | 09198105 |
| Application Number: | 09145073 |
| Application Number: | 09996818 |
| Application Number: | 09198109 |
| Application Number: | 09183474 |
| Application Number: | 09209544 |
| Application Number: | 09502501 |
| Application Number: | 09207369 |
| Application Number: | 09224583 |
| Application Number: | 09495174 |
| Application Number: | 09281022 |
| Application Number: | 09376456 |
| Application Number: | 09314637 |
| Application Number: | 13280884 |
| Application Number: | 14182017 |
| Application Number: | 09499985 |
| Application Number: | 09417882 |
| Application Number: | 09690721 |
| Application Number: | 10158082 |

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 09690903 |
| Application Number: | 09730435 |
| Application Number: | 09758483 |
| Application Number: | 09740284 |
| Application Number: | 09712192 |
| Application Number: | 09972929 |

#### CORRESPONDENCE DATA

**Fax Number:** (732)542-2283

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

**Phone:** 7325422280

Email: khunter@trbklaw.com

Correspondent Name: AT&T LEGAL DEPARTMENT - TRBK

Address Line 1: ONE AT&T WAY Address Line 2: ROOM 2A-212

Address Line 4: BEDMINSTER, NEW JERSEY 07921

| ATTORNEY DOCKET NUMBER: | 2016-1 SPEECH    |
|-------------------------|------------------|
| NAME OF SUBMITTER:      | KIRSTEN HUNTER   |
| SIGNATURE:              | /Kirsten Hunter/ |
| DATE SIGNED:            | 03/28/2016       |

### **Total Attachments: 14**

source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page1.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page2.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page3.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page4.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page5.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page6.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page7.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page8.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page9.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page10.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page11.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page12.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page13.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page13.tif
source=ATTCorp\_ATTPropLLC\_ScheduleA\_Original#page14.tif

### RECORDABLE PATENT ASSIGNMENT

This Recordable Patent Assignment is between AT&T Corp. ("AT&T Corp."), a New York corporation, and AT&T Properties, LLC ("AT&T Properties"), a Nevada limited liability company.

Effective on June 30, 2008, for good and adequate consideration, the receipt and sufficiency of which has been and hereby is acknowledged, AT&T Corp. hereby assigns, transfers, and conveys and/or has assigned, transferred, and conveyed to AT&T Properties all of AT&T Corp.'s right, title and interest in and to the patents and pending patent applications identified on Attachment A (the "Patents"), with respect to which and to the extent to which AT&T Corp. has or previously had the right to so assign, transfer and convey such rights, including all claims for past infringement, and all divisions, reexaminations, reissues, substitutions, continuations, continuations-in-part and extensions thereof, including the right to file applications and obtain patents, utility models, industrial models and designs for said inventions in its own name throughout the world including all rights of priority, all rights to public cautionary notices reserving ownership of said inventions and all rights to claim and register said inventions in appropriate registries. AT&T Corp. has further agreed to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect such rights, title and interest in AT&T Properties, its successors, assigns and legal representatives.

IN WITNESS WHEREOF, AT&T Corp. has caused this Recordable Patent Assignment to be executed by its duly authorized representative.

### AT&T CORP.

Jeanette Napp

Assistant Secretary

AT&T Intellectual Property, LLC As General Partner for AT&T Intellectual Property II, L.P.

STATE OF GEORGIA ) ss: COUNTY OF COWETA )

Before me personally appeared the person described in and who executed the foregoing instrument, and s/he acknowledged to me that s/he executed the same for the purposes therein stated, this  $\mathcal{A}$  day of  $\mathcal{F}$   $\mathcal{A}$  , 2016.

SEAL

Commission
Expires
Mar 19 2018

Vo GEORGIA

Flancine McKee Notary Public

# Schedule A

| Schedule A         |         | 1        | 1         |                     |            |  |
|--------------------|---------|----------|-----------|---------------------|------------|--|
| Docket <b>N</b> o. | Country | Pat. No. | App. No.  | App. Filing<br>Date | Sub Status | Title  |
| 108851             | USA     | 5835570  | 08/670888 | 6/26/1996           | Patented   | Voice-Directed Telephone Directory With Voice Access To<br>Directory Assistance  |
| 110178             | USA     | 6282511  | 08/759916 | 12/4/1996           | Patented   | Voiced Interface With Hyperlinked Information  |
| 110443             | USA     | 6101241  | 08/895183 | 7/16/1997           | Patented   | Telephone-Based Speech Recognition for Data Collection   |
| 111063             | USA     | 6205321  | 08/775914 | 1/2/1997            | Patented   | Pager Having Voice Synthesis Capability And Method For<br>Using The Same   |
| 111268             | USA     | 6233544  | 08/665182 | 6/14/1996           | Patented   | Method And Apparatus For Language Translation  |
| 111721             | USA     | 6108629  | 08/845732 | 4/25/1997           | Patented   | Method and Apparatus For Voice Interaction Over A<br>Network Using An Information Flow Controller  |
| 111791             | USA     | 6370375  | 08/837174 | 4/14/1997           | Patented   | Voice-Response Paging Device And Method  |
| 111892             | USA     | 6125376  | 08/835911 | 4/10/1997           | Patented   | Method And Apparatus For Voice Interaction Over A<br>Network Using Parameterized Interaction Definitions   |
| 112043             | USA     | 5890120  | 08/858966 | 5/20/1997           | Patented   | Segmentation and Sign Language Synthesis   |
| 112075             | USA     | 6078885  | 09/075162 | 5/8/1998            | Patented   | Verbal, Fully Automatic Dictionary Updates By End-Users Of<br>Speech Synthesis And Recognition Systems   |
| 112076             | USA     | 5875422  | 08/792326 | 1/31/1997           | Patented   | Automatic Language Translation Technique For Use In A<br>Telecommunications Network  |
| 112215             | USA     | 5960397  | 08/863927 | 5/27/1997           | Patented   | System And Method Of Recognizing An Acoustic<br>Environment To Adapt A Set of Based Recognition Models To<br>The Current Acoustic Environment For Subsequent Speech<br>Recognition |
| 112299             | USA     | 5956668  | 08/897054 | 7/18/1997           | Patented   | Method And Apparatus For Speech Translation With<br>Unrecognized Segments  |

| 112331 | USA | 6567779 | 08/905931 | 8/5/1997   | Patented | Method And System For Aligning Natural And Synthetic Video To Speech Synthesis  |
|--------|-----|---------|-----------|------------|----------|---|
| 112382 | USA | 6122612 | 08/975589 | 11/20/1997 | Patented | Check-Sum Based Method And Apparatus For Performing Speech Recognition  |
| 112386 | USA | 6223158 | 09/018449 | 2/4/1998   | Patented | Statistical Option Generator For Alpha-Numeric Pre-<br>Database Speech Recognition Correction                                       |
| 112409 | USA | 6069939 | 08/966878 | 11/10/1997 | Patented | Country-Based Language Selection  |
| 112426 | USA | 6138100 | 09/059912 | 4/14/1998  | Patented | Interface For A Voice-Activated Connection System   |
| 112452 | USA | 6021384 | 08/960291 | 10/29/1997 | Patented | Automatic Generation Of SuperWords  |
| 112457 | USA | 6529585 | 09/137366 | 8/20/1998  | Patented | Voice Label Processing Apparatus And Method   |
| 112475 | USA | 7031925 | 09/097770 | 6/15/1998  | Patented | Method And Apparatus For Creating Customer Specific  Dynamic Grammars   |
| 112476 | USA | 6141661 | 08/953468 | 10/17/1997 | Patented | Method And Apparatus For Performing A Grammar-Pruning Operation   |
| 112482 | USA | 6058364 | 08/974830 | 11/20/1997 | Patented | Speech Recognition Of Customer Identifiers Using Adjusted<br>Probabilities Based On Customer Attribute Parameters                   |
| 112483 | USA | 6223156 | 09/056172 | 4/7/1998   | Patented | Speech Recognition Of Caller Identifiers Using Location<br>Information  |
| 112486 | USA | 6075844 | 08/972725 | 11/18/1997 | Patented | Messaging System With Remote Messaging Recording Device<br>Where The Message Is Routed Based On The Spoken Name<br>Of The Recipient |
| 112487 | USA | 6161082 | 08/972727 | 11/18/1997 | Patented | Network Based Language Translation System   |
| 112487 | USA | 6483899 | 09/100607 | 6/19/1998  | Patented | Voice Messaging System  |
| 112496 | USA | 6289088 | 09/468662 | 12/21/1999 | Patented | Pay Phone Call Completion Method And Apparatus  |
|        |     |         |           |            |          |   |

| 112511 | USA | 5946656 | 08/971838 | 11/17/1997 | Patented | Speech And Speaker Recognition Using Factor Analysis To<br>Model Covariance Structure Of Mixture Components              |
|--------|-----|---------|-----------|------------|----------|--|
| 112535 | USA | 5895466 | 08/914532 | 8/19/1997  | Patented | Automated Natural Language Understanding Customer<br>Service System  |
| 112539 | USA |         | 14/222834 | 3/24/2014  | Allowed  | Concise Dynamic Grammars Using N-Best Selection  |
| 112539 | USA | 7937260 | 09/097787 | 6/15/1998  | Patented | Concise Dynamic Grammars Using N-Best Selection  |
| 112539 | USA | 8682665 | 13/096431 | 4/28/2011  | Patented | Concise Dynamic Grammars Using N-Best Selection  |
| 112635 | USA | 6125345 | 08/934056 | 9/19/1997  | Patented | Method And Apparatus For Discriminative Utterance<br>Verification Using Multiple Confidence Measures                     |
| 112670 | USA | 6208965 | 08/975587 | 11/20/1997 | Patented | Method and Apparatus for Performing a Name Acquisition Based on Speech Recognition                                       |
| 112690 | USA | 5970446 | 08/978527 | 11/25/1997 | Patented | Selective Noise/Channel/Coding Models And Recognizers For<br>Automatic Speech Recognition                                |
| 112690 | USA | RE45289 | 09/978250 | 10/17/2001 | Patented | Selective Noise/Channel/Coding Models And Recognizers For<br>Automatic Speech Recognition                                |
| 112694 | USA | 6775652 | 09/107784 | 6/30/1998  | Patented | Speech Recognition Over Lossy Transmission Systems   |
| 112699 | USA | 6112177 | 08/965702 | 11/7/1997  | Patented | Coarticulation Method For Audiovisual Text-To-Speech Synthesis   |
| 112769 | USA | 6411683 | 09/096025 | 6/11/1998  | Patented | Automated Telephone Call Designation System  |
| 112776 | USA | 6202047 | 09/050301 | 3/30/1998  | Patented | Method And Apparatus For Speech Recognition Using Second Order Statistics And Linear Estimation Of Cepstral Coefficients |
| 112788 | USA | 6173279 | 09/058107 | 4/9/1998   | Patented | Method Of Using A Natural Language Interface To Retrieve<br>Information From One Or More Data Resources                  |
| 112796 | USA | 6483896 | 09/019357 | 2/5/1998   | Patented | Speech Recognition Using Telephone Call Parameters   |

| 112802 | USA | 6400805 | 09/097769 | 6/15/1998  | Patented | Statistical Database Correction Of Alphanumeric Identifiers For Speech Recognition And Touch-Tone Recognition   |
|--------|-----|---------|-----------|------------|----------|---|
| 112875 | USA | 6233555 | 09/198579 | 11/24/1998 | Patented | Method And Apparatus For Speaker Identification Using Mixture Discriminant Analysis To Develop Speaker Models   |
| 112909 | USA | 6601030 | 09/198105 | 11/23/1998 | Patented | Method And System For Recorded Word Concatenation   |
| 112913 | USA | 6327346 | 09/145073 | 9/1/1998   | Patented | Method And Apparatus For Setting User Communication Parameters Based On Voice Identification Of Users           |
| 112913 | USA | 6839410 | 09/996818 | 11/30/2001 | Patented | Method And Apparatus For Setting User Communication Parameters Based On Voice Identification Of Users           |
| 112990 | USA | 6195631 | 09/198109 | 11/23/1998 | Patented | Method And Apparatus For Automatic Construction Of<br>Hierarchical Transduction Models For Language Translation |
| 113022 | USA | 6226613 | 09/183474 | 10/30/1998 | Patented | Decoding Input Symbols To Input/Output Hidden Markoff<br>Models   |
| 113078 | USA | 6148284 | 09/209544 | 12/11/1998 | Patented | Method And Apparatus For Automatic Speech Recognition Using Markov Processes On Curves                          |
| 113085 | USA | 6574597 | 09/502501 | 2/11/2000  | Patented | Fully Expanded Context-Dependent Networks For Speech<br>Recognition   |
| 113174 | USA | 6229881 | 09/207369 | 12/8/1998  | Patented | Method And Apparatus To Provide Enhanced Speech<br>Recognition In A Commnication Network                        |
| 113177 | USA | 6839672 | 09/224583 | 12/31/1998 | Patented | Integration Of Talking Heads And Text-To-Speech Synthesizers For Visual TTS                                     |
| 113256 | USA | 6317707 | 09/207326 | 12/7/1998  | Patented | Automatic Clustering Of Tokens From A Corpus For Grammai Acquisition  |
| 113552 | USA | 6587844 | 09/495174 | 2/1/2000   | Patented | Systems And Methods For Optimizing Networks Of Weighted And Unweighted Directed Graphs                          |
| 113566 | USA | 6266638 | 09/281022 | 3/30/1999  | Patented | Voice Quality Compensation System For Speech Synthesis<br>Based On Unit-Selection Speech Database               |
| 113584 | USA | 6415248 | 09/443891 | 11/19/1999 | Patented | Method For Building Linguistic Models From A Corpus   |
|        |     |         |           |            |          |   |

| 1999-0767         USA         6792405         09/730435         12/5/2000         Patented         Speech Recognizer           2000-0034         USA         6947885         09/758483         1/11/2001         Patented         Probabilistic Model For Natural Language Generation           2000-0102         USA         7113910         09/740284         12/19/2000         Patented         Document Expansion In Speech Retrieval           2000-0110         USA         7158935         09/712192         11/15/2000         Patented         Method And System For Predicting Problematic Situations In Automated Dialog   Systems And Methods For Dynamic Re-Configurable Speech  |            |     |         |           |            |          |  |
|--|------------|-----|---------|-----------|------------|----------|--|
| 113607         USA         7181399         09/314637         5/19/1999         Patented         Recognizing The Numeric Language in Natural Spoken Dialogue           113607         USA         8655658         13/280884         10/25/2011         Patented         Recognizing The Numeric Language in Natural Spoken Dialogue           113607         USA         8949127         14/182017         2/17/2014         Patented         Recognizing The Numeric Language in Natural Spoken Dialogue           113652         USA         6604071         09/499985         2/8/2000         Patented         Speech Enhancement With Gain Limitations Based On Speech Activity           1999-0049         USA         6445779         09/417882         10/14/1999         Patented         Method And Apparatus For Providing Outbound Voice-to-Fax Service           1999-0679         USA         7085720         09/690721         10/18/2000         Patented         Method For Task Classification Using Morphemes           1999-0679         USA         7286984         10/158082         5/31/2002         Patented         Method And System For Automatically Detecting Morphemes In A Task Classification System Using Lattices           1999-0679A         USA         6681206         09/690903         10/18/2000         Patented         Method And System For Action Method For A Front-End Speech Recognizer | 113604     | USA | 6535843 | 09/376456 | 8/18/1999  | Patented | Automatic Detection Of Non-Stationarity In Speech Signals                      |
| 13607  | 113604A    | USA | 6324501 | 09/376455 | 8/18/1999  | Patented | Signal Dependent Speech Modifications  |
| 113607         USA         8655658         13/280884         10/25/2011         Patented         Dialogue           113607         USA         8949127         14/182017         2/17/2014         Patented         Recognizing The Numeric Language in Natural Spoken Dialogue           113652         USA         6604071         09/49985         2/8/2000         Patented         Speech Enhancement With Gain Limitations Based On Speech Activity           1999-0049         USA         6445779         09/417882         10/14/1999         Patented         Method And Apparatus For Providing Outbound Voice-to-Fax Service           1999-0679         USA         7085720         09/690721         10/18/2000         Patented         Method For Task Classification Using Morphemes           1999-0679         USA         7286984         10/158082         5/31/2002         Patented         Method And System For Automatically Detecting Morphemes In A Task Classification System Using Lattices           1999-0679A         USA         6681206         09/690903         10/18/2000         Patented         Method For Generating Morphemes           1999-0767         USA         6792405         09/730435         12/5/2000         Patented         Probabilistic Model For Natural Language Generation           2000-0034         USA         7113910         09/740284<                             | 113607     | USA | 7181399 | 09/314637 | 5/19/1999  | Patented |  |
| 113607         USA         8949127         14/182017         2/11/2014         Patented         Dialogue           113652         USA         6604071         09/499985         2/8/2000         Patented         Speech Enhancement With Gain Limitations Based On Speech Activity           1999-0049         USA         6445779         09/417882         10/14/1999         Patented         Method And Apparatus For Providing Outbound Voice-to-Fax Service           1999-0679         USA         7085720         09/690721         10/18/2000         Patented         Method For Task Classification Using Morphemes           1999-0679         USA         7286984         10/158082         5/31/2002         Patented         Method And System For Automatically Detecting Morphemes In A Task Classification System Using Lattices           1999-0679A         USA         6681206         09/690903         10/18/2000         Patented         Method For Generating Morphemes           1999-0767         USA         6792405         09/730435         12/5/2000         Patented         Bitstream-Based Feature Extraction Method For A Front-Enc Speech Recognizer           2000-0102         USA         7113910         09/740284         12/19/2000         Patented         Document Expansion In Speech Retrieval           2000-0102         USA         7158935         09/                             | 113607     | USA | 8655658 | 13/280884 | 10/25/2011 | Patented |  |
| 1999-0049  | 113607     | USA | 8949127 | 14/182017 | 2/17/2014  | Patented |  |
| 1999-0049         USA         64457/9         09/417882         10/14/1999         Patented         Fax Service           1999-0679         USA         7085720         09/690721         10/18/2000         Patented         Method For Task Classification Using Morphemes           1999-0679         USA         7286984         10/158082         5/31/2002         Patented         Method And System For Automatically Detecting Morphemes In A Task Classification System Using Lattices           1999-0679A         USA         6681206         09/690903         10/18/2000         Patented         Method For Generating Morphemes           1999-0767         USA         6792405         09/730435         12/5/2000         Patented         Bitstream-Based Feature Extraction Method For A Front-End Speech Recognizer           2000-0034         USA         6947885         09/758483         1/11/2001         Patented         Probabilistic Model For Natural Language Generation           2000-0102         USA         7113910         09/740284         12/19/2000         Patented         Document Expansion In Speech Retrieval           2000-0110         USA         7158935         09/712192         11/15/2000         Patented         Method And System For Predicting Problematic Situations In Automated Dialog   | 113652     | USA | 6604071 | 09/499985 | 2/8/2000   | Patented | •  |
| 1999-0679         USA         7286984         10/158082         5/31/2002         Patented         Method And System For Automatically Detecting Morphemes In A Task Classification System Using Lattices           1999-0679A         USA         6681206         09/690903         10/18/2000         Patented         Method For Generating Morphemes           1999-0767         USA         6792405         09/730435         12/5/2000         Patented         Bitstream-Based Feature Extraction Method For A Front-End Speech Recognizer           2000-0034         USA         6947885         09/758483         1/11/2001         Patented         Probabilistic Model For Natural Language Generation           2000-0102         USA         7113910         09/740284         12/19/2000         Patented         Document Expansion In Speech Retrieval           2000-0110         USA         7158935         09/712192         11/15/2000         Patented         Method And System For Predicting Problematic Situations In Automated Dialog  | 1999-0049  | USA | 6445779 | 09/417882 | 10/14/1999 | Patented |  |
| 1999-0679         USA         7286984         10/158082         5/31/2002         Patented Morphemes In A Task Classification System Using Lattices           1999-0679A         USA         6681206         09/690903         10/18/2000         Patented         Method For Generating Morphemes           1999-0767         USA         6792405         09/730435         12/5/2000         Patented         Bitstream-Based Feature Extraction Method For A Front-End Speech Recognizer           2000-0034         USA         6947885         09/758483         1/11/2001         Patented         Probabilistic Model For Natural Language Generation           2000-0102         USA         7113910         09/740284         12/19/2000         Patented         Document Expansion In Speech Retrieval           2000-0110         USA         7158935         09/712192         11/15/2000         Patented         Method And System For Predicting Problematic Situations In Automated Dialog  | 1999-0679  | USA | 7085720 | 09/690721 | 10/18/2000 | Patented | Method For Task Classification Using Morphemes                                 |
| 1999-0767 USA 6792405 09/730435 12/5/2000 Patented Bitstream-Based Feature Extraction Method For A Front-End Speech Recognizer  2000-0034 USA 6947885 09/758483 1/11/2001 Patented Probabilistic Model For Natural Language Generation  2000-0102 USA 7113910 09/740284 12/19/2000 Patented Document Expansion In Speech Retrieval  2000-0110 USA 7158935 09/712192 11/15/2000 Patented Method And System For Predicting Problematic Situations In Automated Dialog  | 1999-0679  | USA | 7286984 | 10/158082 | 5/31/2002  | Patented |  |
| 1999-0767         USA         6792405         09/730435         12/5/2000         Patented         Speech Recognizer           2000-0034         USA         6947885         09/758483         1/11/2001         Patented         Probabilistic Model For Natural Language Generation           2000-0102         USA         7113910         09/740284         12/19/2000         Patented         Document Expansion In Speech Retrieval           2000-0110         USA         7158935         09/712192         11/15/2000         Patented         Method And System For Predicting Problematic Situations In Automated Dialog   Systems And Methods For Dynamic Re-Configurable Speech  | 1999-0679A | USA | 6681206 | 09/690903 | 10/18/2000 | Patented | Method For Generating Morphemes  |
| 2000-0102 USA 7113910 09/740284 12/19/2000 Patented Document Expansion In Speech Retrieval  2000-0110 USA 7158935 09/712192 11/15/2000 Patented Method And System For Predicting Problematic Situations In Automated Dialog  | 1999-0767  | USA | 6792405 | 09/730435 | 12/5/2000  | Patented | Bitstream-Based Feature Extraction Method For A Front-End<br>Speech Recognizer |
| 2000-0110 USA 7158935 09/712192 11/15/2000 Patented Method And System For Predicting Problematic Situations In Automated Dialog  Systems And Methods For Dynamic Re-Configurable Speech  | 2000-0034  | USA | 6947885 | 09/758483 | 1/11/2001  | Patented | Probabilistic Model For Natural Language Generation                            |
| 2000-0110 USA 7158935 09/712192 11/15/2000 Patented Automated Dialog  Systems And Methods For Dynamic Re-Configurable Speech   | 2000-0102  | USA | 7113910 | 09/740284 | 12/19/2000 | Patented | Document Expansion In Speech Retrieval   |
| Systems And Methods For Dynamic Re-Configurable Speech   | 2000-0110  | USA | 7158935 | 09/712192 | 11/15/2000 | Patented | Method And System For Predicting Problematic Situations In Automated Dialog    |
| 2000-0499 USA 7457750 09/972929 10/10/2001 Patented Recognition  | 2000-0499  | USA | 7457750 | 09/972929 | 10/10/2001 | Patented | Systems And Methods For Dynamic Re-Configurable Speech<br>Recognition          |

| 2000-0499  | USA | 8719017 | 12/120801 | 5/15/2008  | Patented                  | Systems And Methods For Dynamic Re-Configurable Speech<br>Recognition                                       |
|------------|-----|---------|-----------|------------|---------------------------|---|
| 2000-0675  | USA | 6771769 | 09/750376 | 12/28/2000 | Patented                  | Method And Apparatus For Active Reduction Of<br>Speakerphone Singing  |
| 2001-0101  | USA | 7225126 | 09/879313 | 6/12/2001  | Patented                  | System And Method For Processing Speech Files   |
| 2001-0101  | USA | 8600745 | 13/164287 | 6/20/2011  | Patented                  | System And Method For Processing Speech Files   |
| 2001-0105  | USA | 9058810 | 13/429946 | 3/26/2012  | Patented                  | System And Method Of Performing User-Specific Automatic<br>Speech Recognition                               |
| 2001-0206  | USA | 6950798 | 10/090065 | 3/2/2002   | Patented                  | Employing Speech Models In Concatenative Speech<br>Synthesis  |
| 2001-0251  | USA | 7181386 | 10/199220 | 7/18/2002  | Patented                  | Systems And Methods For Generating Weighted Finite-State Automata Representing Grammars                     |
| 2001-0251  | USA | 8543383 | 13/284111 | 10/28/2011 | Patented                  | Systems And Methods For Generating Weighted Finite-State Automata Representing Grammars                     |
| 2001-0251A | USA | 7289948 | 10/199227 | 7/22/2002  | Patented                  | Systems And Methods For Regularly Approximating Context-<br>Free Grammars Through Transformation            |
| 2001-0283A | USA | 6895375 | 09/971375 | 10/4/2001  | Patented                  | System For Bandwidth Extension Of Narrow-Band Speech  |
| 2001-0283A | USA | 8595001 | 13/290464 | 11/7/2011  | Patented                  | System For Bandwidth Extension Of Narrow-Band Speech  |
| 2001-0320  | USA | 7152029 | 10/160461 | 5/31/2002  | Patented                  | System And Method Of Using Existing Knowledge To Rapidly<br>Train Automatic Speech Recognizers              |
| 2001-0330  | USA | 7272377 | 10/067851 | 2/7/2002   | Patented                  | System And Method Of Ubiquitous Language Translation For Wireless Devices                                   |
| 2001-0415  | USA | 7505908 | 10/216390 | 8/12/2002  | Patented                  | Systems And Methods For Classifying And Representing<br>Gestural Inputs                                     |
| 2001-0415A | USA |         | 14/540131 | 11/13/2014 | Final<br>Office<br>Action | Systems And Methods Of Generating Markup-Language<br>Based Expressions From Multi-Modal And Unimodal Inputs |

| 2001-0489  | USA | 7167832 | 10/269502 | 10/11/2002 | Patented | Method For Dialog Management   |
|------------|-----|---------|-----------|------------|----------|--|
| 2001-0489  | USA | 7403899 | 11/548899 | 10/12/2006 | Patented | Method For Dialog Management   |
| 2001-0489  | USA | 8600747 | 12/140805 | 6/17/2008  | Patented | Method For Dialog Management   |
| 2001-0505  | USA |         | 14/081166 | 11/15/2013 | Allowed  | System And Method Of Spoken Language Understanding In<br>Human Computer Dialogs        |
| 2001-0505  | USA | 8190436 | 10/310596 | 12/5/2002  | Patented | System And Method Of Spoken Language Understanding In<br>Human Computer Dialogs        |
| 2001-0505  | USA | 8386262 | 13/481031 | 5/25/2012  | Patented | System And Method Of Spoken Language Understanding In<br>Human Computer Dialogs        |
| 2001-0505  | USA | 8612232 | 13/775546 | 2/25/2013  | Patented | System And Method Of Spoken Language Understanding In<br>Human Computer Dialogs        |
| 2002-0026  | USA | 7209882 | 10/143717 | 5/10/2002  | Patented | System And Method For Triphone-Based Unit Selection For<br>Visual Speech Synthesis     |
| 2002-0040  | USA | 7076430 | 10/173341 | 6/17/2002  | Patented | System And Method Of Providing Conversational Visual Prosody For Talking Heads         |
| 2002-0050  | USA | 7197460 | 10/326692 | 12/19/2002 | Patented | System For Handling Frequently Asked Questions In A<br>Natural Language Dialog Service |
| 2002-0063  | USA | 8566102 | 10/288764 | 11/6/2002  | Patented | System And Method Of Automating A Spoken Dialogue<br>Service                           |
| 2002-0070  | USA | 7266497 | 10/341869 | 1/14/2003  | Patented | Automatic Segmentation In Speech Synthesis   |
| 2002-0093  | USA | 7869998 | 10/325295 | 12/19/2002 | Patented | Voice-Enabled Dialog System  |
| 2002-0093A | USA | 8645122 | 10/325266 | 12/19/2002 | Patented | Method Of Handling Frequently Asked Questions In A<br>Natural Language Dialog Service  |
| 2002-0096  | USA | 7930181 | 10/301097 | 11/21/2002 | Patented | Low Latency Real-Time Speech Transcription   |
|            |     |         |           |            |          |  |

| 2002-0096  | USA | 7941317 | 11/758037 | 6/5/2007   | Patented | Low Latency Real-Time Speech Transcription   |
|------------|-----|---------|-----------|------------|----------|--|
| 2002-0141  | USA | 7890324 | 10/325292 | 12/19/2002 | Patented | Context-Sensitive Interface Widgets For Multi-Modal Dialog<br>Systems  |
| 2002-0166  | USA | 7295970 | 10/350727 | 1/24/2003  | Patented | Unsupervised Speaker Segmentation Of Multi-Speaker<br>Speech Data  |
| 2002-0236  | USA | 7505906 | 10/787782 | 2/26/2004  | Patented | System And Method For Augmenting Spoken Language Understanding By Correcting Common Errors In Linguistic Performance |
| 2002-0306  | USA | 7263486 | 10/404699 | 4/1/2003   | Patented | Active Learning For Spoken Language Understanding  |
| 2002-0340  | USA | 7835910 | 10/448415 | 5/29/2003  | Patented | Exploiting Unlabeled Utterances For Spoken Language<br>Understanding   |
| 2002-0343  | USA | 7292976 | 10/447888 | 5/29/2003  | Patented | Active Learning Process For Spoken Dialog Systems  |
| 2002-0348  | USA | 7295981 | 10/755014 | 1/9/2004   | Patented | Method For Building A Natural Language Understanding<br>Model For A Spoken Dialog System                             |
| 2002-0351  | USA | 7366655 | 10/405858 | 4/2/2003   | Patented | Method Of Generating A Labeling Guide For Spoken Dialog<br>Services  |
| 2002-0352  | USA | 7853451 | 10/739380 | 12/18/2003 | Patented | System And Method Of Exploiting Human-Human Data For<br>Spoken Language Understanding Systems                        |
| 2002-0356  | USA | 7412383 | 10/407965 | 4/4/2003   | Patented | Systems And Methods For Reducing Annotation Time   |
| 2002-0375  | USA | 7219054 | 10/407964 | 4/4/2003   | Patented | Systems And Methods For Generating An Annotation Guide   |
| 2002-0413A | USA | 7373300 | 10/740186 | 12/18/2003 | Patented | System And Method Of Providing A Spoken Dialogue<br>Interface To A Website   |
| 2002-0413A | USA | 8249879 | 13/290501 | 11/7/2011  | Patented | System And Method Of Providing A Spoken Dialogue<br>Interface To A Website   |
| 2002-0413A | USA | 8442834 | 13/587554 | 8/16/2012  | Patented | System And Method Of Providing A Spoken Dialogue<br>Interface To A Website   |
|            |     |         |           |            |          |  |

| USA | 8688456                     | 13/891447   | 5/10/2013   | Patented  | System And Method Of Providing A Spoken Dialogue<br>Interface To A Website   |
|-----|-----------------------------|---|---|---|--|
| USA | 8949132                     | 14/224644   | 3/25/2014   | Patented  | System And Method Of Providing A Spoken Dialogue<br>Interface To A Website   |
| USA | 8683437                     | 10/826065   | 4/16/2004   | Patented  | System And Method For The Automatic Validation Of Dialog<br>Run Time Systems   |
| USA | 7945903                     | 10/826062   | 4/16/2004   | Patented  | System And Method For Converting Graphical Call Flows Into<br>Finite State Machines  |
| USA | 8381200                     | 13/099805   | 5/3/2011  | Patented  | System And Method For Converting Graphical Call Flows Into<br>Finite State Machines  |
| USA | 8635604                     | 13/765136   | 2/12/2013   | Patented  | System And Method For Converting Graphical Call Flows Into<br>Finite State Machines  |
| USA | 7987244                     | 11/275221   | 12/20/2005  | Patented  | Network Repository For Voice Fonts   |
| USA | 7013282                     | 10/742853   | 12/23/2003  | Patented  | System And Method For Text-To-Speech Processing In A<br>Portable Device  |
| USA | 8086462                     | 10/936835   | 9/9/2004  | Patented  | Automatic Detection, Summarization And Reporting Of<br>Business Intelligence Highlights From Automated Dialog<br>Systems   |
| USA | 8589172                     | 13/305077   | 11/28/2011  | Patented  | Automatic Detection, Summarization And Reporting Of<br>Business Intelligence Highlights From Automated Dialog<br>Systems   |
| USA | 7729912                     | 10/742852   | 12/23/2003  | Patented  | System And Method For Latency Reduction For Automatic Speech Recognition Using Partial Multi-Pass Results  |
| USA | 8209176                     | 13/219640   | 8/27/2011   | Patented  | System And Method For Latency Reduction For Automatic Speech Recognition Using Partial Multi-Pass Results  |
| USA | 8175877                     | 11/047912   | 2/2/2005  | Patented  | Method And Apparatus For Predicting Word Accuracy In<br>Automatic Speech Recognition Systems   |
| USA | 8538752                     | 13/465886   | 5/7/2012  | Patented  | Method And Apparatus For Predicting Word Accuracy In Automatic Speech Recognition Systems  |
| USA | 7310414                     | 10/803701   | 3/18/2004   | Patented  | Prepaid Phone Card Service Using Speech Recognition  |
|     | USA USA USA USA USA USA USA | USA 8949132 USA 8683437 USA 7945903 USA 8381200 USA 7987244 USA 7013282 USA 8086462 USA 8589172 USA 7729912 USA 8209176 USA 8175877 USA 8538752 | USA       8949132       14/224644         USA       8683437       10/826065         USA       7945903       10/826062         USA       8381200       13/099805         USA       7987244       11/275221         USA       7013282       10/742853         USA       8086462       10/936835         USA       8589172       13/305077         USA       7729912       10/742852         USA       8209176       13/219640         USA       8175877       11/047912         USA       8538752       13/465886 | USA       8949132       14/224644       3/25/2014         USA       8683437       10/826065       4/16/2004         USA       7945903       10/826062       4/16/2004         USA       8381200       13/099805       5/3/2011         USA       8635604       13/765136       2/12/2013         USA       7987244       11/275221       12/20/2005         USA       7013282       10/742853       12/23/2003         USA       8086462       10/936835       9/9/2004         USA       8589172       13/305077       11/28/2011         USA       7729912       10/742852       12/23/2003         USA       8209176       13/219640       8/27/2011         USA       8175877       11/047912       2/2/2005         USA       8538752       13/465886       5/7/2012 | USA       8949132       14/224644       3/25/2014       Patented         USA       8683437       10/826065       4/16/2004       Patented         USA       7945903       10/826062       4/16/2004       Patented         USA       8381200       13/099805       5/3/2011       Patented         USA       8635604       13/765136       2/12/2013       Patented         USA       7987244       11/275221       12/20/2005       Patented         USA       7013282       10/742853       12/23/2003       Patented         USA       8589172       13/305077       11/28/2011       Patented         USA       7729912       10/742852       12/23/2003       Patented         USA       8209176       13/219640       8/27/2011       Patented         USA       8175877       11/047912       2/2/2005       Patented         USA       8538752       13/465886       5/7/2012       Patented |

| 2003-0272 | USA | 7574356 | 10/894201 | 7/19/2004  | Patented | System And Method For Spelling Recognition Using Speech And Non-Speech Input                          |
|-----------|-----|---------|-----------|------------|----------|---|
| 2003-0272 | USA | 8229747 | 13/109293 | 5/17/2011  | Patented | System And Method For Spelling Recognition Using Speech And Non-Speech Input                          |
| 2003-0277 | USA | 7752046 | 10/976378 | 10/29/2004 | Patented | System And Method For Using Meta-Data Dependent<br>Language Modeling For Automatic Speech Recognition |
| 2003-0278 | USA | 7996224 | 10/977030 | 10/29/2004 | Patented | System And Method Of Using Meta-Data In Speech-<br>Processing   |
| 2004-0026 | USA | 8010357 | 11/033902 | 1/12/2005  | Patented | Combining Active And Semi-Supervised Learning For Spoken Language Understanding                       |
| 2004-0097 | USA | 8332226 | 11/030923 | 1/7/2005   | Patented | System And Method Of Dynamically Modifying A Spoken Dialog System To Reduce Hardware Requirements     |
| 2004-0097 | USA | 8600757 | 13/690825 | 11/30/2012 | Patented | System And Method Of Dynamically Modifying A Spoken Dialog System To Reduce Hardware Requirements     |
| 2004-0108 | USA | 8473451 | 11/086954 | 3/22/2005  | Patented | Preserving Privacy In Natural Language Databases  |
| 2004-0108 | USA | 8751439 | 13/926404 | 6/25/2013  | Patented | Preserving Privacy In Natural Language Databases  |
| 2004-0125 | USA | 8185399 | 11/029798 | 1/5/2005   | Patented | System And Method Of Providing An Automated Data-<br>Collection In Spoken Dialog Systems              |
| 2004-0125 | USA | 8694324 | 13/476150 | 5/21/2012  | Patented | System And Method Of Providing An Automated Data-<br>Collection In Spoken Dialog Systems              |
| 2004-0224 | USA |         | 14/282054 | 5/20/2014  | Filed    | Apparatus And Method For Model Adaptation For Spoken Language Understanding                           |
| 2004-0224 | USA | 7996219 | 11/085587 | 3/21/2005  | Patented | Apparatus And Method For Model Adaptation For Spoken Language Understanding                           |
| 2004-0224 | USA | 8731924 | 13/205057 | 8/8/2011   | Patented | Apparatus And Method For Model Adaptation For Spoken Language Understanding                           |
| 2004-0269 | USA | 7912720 | 11/185092 | 7/20/2005  | Patented | System And Method For Building Emotional Machines   |
|           |     |         |           |            |          |   |

| 2004-0269  | USA | 8204749 | 13/053179 | 3/21/2011  | Patented | System And Method For Building Emotional Machines   |
|------------|-----|---------|-----------|------------|----------|---|
| 2004-0275  | USA | 8751240 | 11/128564 | 5/13/2005  | Patented | Apparatus And Method For Forming Search Engine Queries Based On Spoken Utterances               |
| 2004-0357  | USA | 8600753 | 11/321638 | 12/30/2005 | Patented | Method And Apparatus For Combining Text To Speech And Recorded Prompts                          |
| 2004-0457  | USA | 8433558 | 11/188825 | 7/25/2005  | Patented | Methods And Systems For Natural Language Understanding Using Human Knowledge And Collected Data |
| 2004-0457  | USA | 8798990 | 13/873548 | 4/30/2013  | Patented | Methods And Systems For Natural Language Understanding Using Human Knowledge And Collected Data |
| 2004-0483  | USA | 8457973 | 11/276542 | 3/4/2006   | Patented | Menu Hierarchy Skipping Dialog For Directed Dialog Speech<br>Recognition                        |
| 2004-0483  | USA | 8862477 | 13/908411 | 6/3/2013   | Patented | Menu Hierarchy Skipping Dialog For Directed Dialog Speech<br>Recognition                        |
| 2004-0489  | USA | 7693716 | 11/235954 | 9/27/2005  | Patented | System And Method Of Developing A TTS Voice   |
| 2004-0489A | USA | 7742921 | 11/235821 | 9/27/2005  | Patented | System And Method For Correcting Errors When Generating A TTS Voice                             |
| 2004-0489B | USA | 7711562 | 11/235822 | 9/27/2005  | Patented | System And Method For Testing A TTS Voice   |
| 2004-0489C | USA | 7630898 | 11/235817 | 9/27/2005  | Patented | System And Method For Preparing A Pronunciation Dictionary For A Text-To-Speech Voice           |
| 2004-0489D | USA | 7742919 | 11/235857 | 9/27/2005  | Patented | System And Method For Repairing A TTS Voice Database  |
| 2004-0541  | USA | 7552098 | 11/324011 | 12/30/2005 | Patented | Methods To Distribute Multiclass Classification Learning On<br>Several Processors               |
| 2004-0558  | USA | 8185400 | 11/246604 | 10/7/2005  | Patented | System And Method For Isolating And Processing Common Dialog Cues                               |
| 2004-0558  | USA | 8532995 | 13/476155 | 5/21/2012  | Patented | System And Method For Isolating And Processing Common Dialog Cues                               |
|            |     |         |           |            |          |   |

| 2005-0071  | USA | 8542803 | 11/207972 | 8/19/2005  | Patented | System And Method For Integrating And Managing Email, Voicemail, And Telephone Conversations Using Speech Processing Techniques                      |
|------------|-----|---------|-----------|------------|----------|--|
| 2005-0307  | USA | 7593520 | 11/294322 | 12/5/2005  | Patented | Method And Apparatus For Providing Voice Control For Accessing Teleconference Services   |
| 2005-0307  | USA | 8515045 | 13/476897 | 5/21/2012  | Patented | Method And Apparatus For Providing Voice Control For Accessing Teleconference Services   |
| 2005-0307  | USA | 9219820 | 13/971657 | 8/20/2013  | Patented | Method And Apparatus For Providing Voice Control For Accessing Teleconference Services   |
| 2005-0368  | USA | 8321220 | 11/290859 | 11/30/2005 | Patented | System And Method Of Semi-Supervised Learning For<br>Spoken Language Understanding Using Semantic Role<br>Labeling                                   |
| 2005-0368  | USA | 8548805 | 13/684939 | 11/26/2012 | Patented | System And Method Of Semi-Supervised Learning For<br>Spoken Language Understanding Using Semantic Role<br>Labeling                                   |
| 2005-0488  | USA | 8234494 | 11/312403 | 12/21/2005 | Patented | Speaker-Verification Digital Signatures  |
| 2005-0488  | USA | 8751233 | 13/562713 | 7/31/2012  | Patented | Digital Signatures For Communications Using Text-<br>Independent Speaker Verification  |
| 2005-0519  | USA | 8195462 | 11/276151 | 2/16/2006  | Patented | System And Method For Providing Large Vocabulary Speech<br>Processing Based On Fixed-Point Arithmetic  |
| 2005-0532  | USA | 7664644 | 11/423212 | 6/9/2006   | Patented | Multitask Learning For Spoken Language Understanding   |
| 2005-0539  | USA | 7716039 | 11/279804 | 4/14/2006  | Patented | Learning Edit Machined For Robust Multimodal Understanding   |
| 2006-0045  | USA | 8204751 | 11/459523 | 7/24/2006  | Patented | Relevance Recognition For A Human Machine Dialog System Contextual Question Answering Based On A Normalization Of The Length Of The User Input       |
| 2006-0045  | USA | 8639517 | 13/524714 | 6/15/2012  | Patented | Relevance Recognition For A Human Machine Dialog System<br>Contextual Question Answering Based On A Normalization<br>Of The Length Of The User Input |
| 2006-A0497 | USA | 7584104 | 11/530258 | 9/8/2006   | Patented | Service-Quality Text-To-Speech Synthesis System  |
| 2006-A0595 | USA | 8521510 | 11/469016 | 8/31/2006  | Patented | Method And System For Providing An Automated Web<br>Transcription Servivce   |

| 2006-A0595 | USA | 8775176 | 13/975901 | 8/26/2013 | Patented | Method And System For Providing An Automated Web Transcription Service  |
|------------|-----|---------|-----------|-----------|----------|---|
| 2006-A1409 | USA | 8762143 | 11/754814 | 5/29/2007 | Patented | Method And Apparatus For Identifying Acoustic Background<br>Environments Based On Time And Speed To Enhance<br>Automatic Speech Recognition |
| 2006-A1882 | USA | 7797158 | 11/765527 | 6/20/2007 | Patented | System And Method For Improving Robustness Of Speech<br>Recognition Using Vocal Tract Length Normalization<br>Codebooks                     |
| 2006-A1882 | USA | 8600744 | 13/446329 | 4/13/2012 | Patented | System And Method For Improving Robustness Of Speech<br>Recognition Using Vocal Tract Length Normalization<br>Codebooks                     |

**RECORDED: 03/28/2016**