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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	090611-0408808
First Inventor	WEIDER, CHRIS
Title	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS
Express Mail Label No.	

APPLICATION ELEMENTS

See *MPEP chapter 600 concerning utility patent application contents.*

1. ☐ **Fee Transmittal Form** (e.g., PTO/SB/17)
2. ☒ **Applicant claims small entity status.** See 37 CFR 1.27.
3. ☒ **Specification** [*Total Pages* 67]
   Both the claims and abstract must start on a new page
   (For information on the preferred arrangement, see MPEP 608.01(a))
4. ☒ **Drawing(s)** (35 U.S. C. *113*) [*Total Sheets* 8]
5. **Oath or Declaration** [*Total Sheets* 5]
   a. ☐ Newly executed (original or copy)
   b. ☒ A copy from a prior application (37 CFR 1.63(d))
   (for continuation/divisional with Box 18 completed)
   i. ☐ DELETION OF INVENTOR(s)
   Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☒ **Application Data Sheet.** See 37 CFR 1.76
7. ☐ **CD-ROM or CD-R** in duplicate, large table or Computer Program *(Appendix)*
   ☐ Landscape Table on CD
8. **Nucleotide and/or Amino Acid Sequence Submission** *(if applicable, items a. - c. are required)*
   a. ☐ Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. ☐ CD-ROM or CD-R (2 copies); or
      ii. ☐ Paper
   c. ☐ Statements verifying identity of above copies

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Alexandria VA 22313-1450

ACCOMPANYING APPLICATION PARTS

9. ☐ **Assignment Papers** (cover sheet & document(s))
   Name of Assignee _____
10. ☐ **37 CFR 3.73(b) Statement** *(when there is an assignee)* ☐ **Power of Attorney**
11. ☐ **English Translation Document** *(if applicable)*
12. ☒ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
    ☐ Copies of citations attached
13. ☐ **Preliminary Amendment**
14. ☐ **Return Receipt Postcard** (MPEP 503)
    (Should be specifically itemized)
15. ☐ **Certified Copy of Priority Document(s)**
    (if foreign priority is claimed)
16. ☐ **Nonpublication Request** under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent.
17. ☐ Other: _____

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:*

☒ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: 13/084,197

Prior application information: *Examiner* YEN, ERIC L. *Art Unit:* 2626

19. CORRESPONDENCE ADDRESS

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Signature	/Chen Li/	Date	June 4, 2012
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This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Attorney Docket No. 090611-0408808 *PATENT*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: WEIDER, CHRIS, et al.

Application No.:	Unknown	Confirmation No.:	Unknown
Filed:	June 4, 2012	Group No.:	Unknown
		Examiner:	Unknown

For: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

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APPLICATION DATA SHEET
37 CFR § 1.76

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2. Correspondence information

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3. Application information

Title of the Invention: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS
Attorney Docket Number: 090611-0408808 Small Entity Status Claimed ☒
Total number of drawing sheets: 8
Type of application: Utility

4. Representative information.

The following have a power of attorney or authorization of agent in this application:

Customer No.: 00909

5. Domestic Priority information.

Domestic priority for this application is claimed as follows:

35 U.S.C. § 120

Application No.	Filed	Status	Relationship
This Application	June 4, 2012	Pending	Continuation of
13/084,197	April 11, 2011	Allowed	Divisional of
11/212,693	August 29, 2005	Granted	Parent

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MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

CROSS-REFERENCE TO RELATED APPLICATIONS

[001] This application is a divisional of U.S. Patent Application Serial No. 11/212,693, entitled "Mobile Systems and Methods of Supporting Natural Language Human-Machine Interactions," filed August 29, 2005, the contents of which are hereby incorporated by reference in their entirety.

FIELD OF THE INVENTION

[002] The invention provides mobile devices having a speech interface and/or a combination of a speech interface and a non-speech interface to enable natural language human-machine interactions. More specifically, the invention enables mobile users to submit natural language speech and/or non-speech questions or commands in a wide range of domains. The mobile device is configured to present responses in a natural manner.

BACKGROUND OF THE INVENTION

[003] Telematic systems are systems that bring human-computer interfaces to mobile environments. Conventional computer interfaces use some combination of keyboards, keypads, point and click techniques and touch screen displays. These conventional interface techniques are generally not suitable for a mobile environments, due at least in part to the speed of interaction and the inherent danger and distraction. Therefore, speech interfaces are being adopted in many telematic applications.

[004] However, creating a natural language speech interface that is suitable for use in the mobile environment has proved difficult. A general-purpose telematics system should accommodate commands and requests from a wide range of domains and from many users with diverse preferences and needs. Further, multiple mobile users may want to use such systems, often simultaneously. Finally, most mobile environments are relatively noisy, making speech recognition inherently difficult.

[005] Retrieval of both local and network hosted online information and processing of commands in a natural manner remains a difficult problem in any environment, especially a mobile environment. Cognitive research on human interaction shows that verbal communication, such as a person asking a question or giving a command, typically relies heavily on context and domain knowledge of the target person. By contrast, machine-based requests (a request may be a question, a command, and/or other types of communications) may be highly structured and may not be inherently natural to the human user. Thus, verbal communications and machine processing of requests that are extracted from the verbal communications may be fundamentally incompatible. Yet the ability to allow a person to make natural language speech-based requests remains a desirable goal.

[006] Research has been performed on multiple fields of natural language processing and speech recognition. Speech recognition has steadily improved in accuracy and today is successfully used in a wide range of applications. Natural language processing has previously been applied to the parsing of speech queries. Yet, a limited number of systems have been developed that provide a complete environment for users to make natural language speech requests and/or commands and receive natural sounding responses in a mobile environment. There remain a number of significant barriers to creation of a complete natural language verbal and/or textual-based query and response environment.

[007] The fact that most natural language requests and commands are incomplete in their definition is a significant barrier to natural language query-response interaction. Further, some questions can only be interpreted in the context of previous questions, knowledge of the domain, or the user's history of interests and preferences. Thus, some natural language questions and commands may not be easily transformed to machine processable form. Compounding this problem, many natural language questions may be ambiguous or subjective. In these cases, the formation of a machine processable query and returning of a natural language response is difficult at best.

[008] Even once a question is asked, parsed and interpreted, machine processable requests and commands must be formulated. Depending on the nature of the question, there may not be a simple set of requests that return an adequate response. Several requests may need to be

initiated and even these requests may need to be chained or concatenated to achieve a complete result. Further, no single available source may include the entire set of results required. Thus, multiple requests, perhaps with several parts, may need to be made to multiple data sources, which can be located both locally or remotely. Not all of these sources and requests may return useful results or any results at all.

[009] In a mobile environment, the use of wireless communications may further reduce the chances that requests will be complete or that successful results will be returned. Useful results that are returned are often embedded in other information and may need to be extracted therefrom. For example, a few key words or numbers often need to be "scraped" from a larger amount of other information in a text string, table, list, page, or other information. At the same time, other extraneous information such as graphics or pictures may need to be removed to process the response in speech. In any case, the multiple results should be evaluated and combined to form the best possible answer, even in the case where some requests do not return useful results or fail entirely. In cases where the question is ambiguous or the result inherently subjective, determining the best result to present is a complex process. Finally, to maintain a natural interaction, responses should be returned rapidly to the user. Managing and evaluating complex and uncertain requests, while maintaining real-time performance, is a significant challenge.

[010] These and other drawbacks exist in existing systems.

SUMMARY OF THE INVENTION

[011] The invention overcomes these and other drawbacks of prior telematic systems.

[012] According to one aspect of the invention, speech-based and non-speech-based systems are provided that act on commands and retrieve information. The invention uses context, prior information, domain knowledge, and user specific profile data to achieve a natural environment for users that submit requests and/or commands in multiple domains. At each step in the process, accommodation may be made for full or partial failure and graceful recovery. The robustness to partial failure may be achieved through the use of probabilistic and fuzzy

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reasoning at several stages of the process. This robustness to partial failure promotes the feeling of a natural response to questions and commands.

[013] According to another aspect of the invention, the interactive natural language system (herein "the system") may be incorporated into mobile devices or may be connected to the mobile device via a wired or wireless connection. The mobile device may interface with computers or other electronic control systems through wired or wireless links. The mobile device may also operate independently of a mobile structure and may be used to remotely control devices through a wireless local area connection, a wide area wireless connection or through other communication links.

[014] According to one aspect of the invention, software may be installed onto the mobile device that includes an input module that captures the user input; a parser that parses the input, a text to speech engine module for converting text to speech; a network interface for enabling the device to interface with one or more networks; a non-speech interface module, an event manager for managing events and/or other modules. In some embodiments, the event manager may be in communication with a context description grammar, a user profile module that enables user profiles to be created, modified and/or accessed, a personality module that enables various personalities to be created and/or used, an agent module, an update manager and one or more databases. It will be understood that this software may be distributed in any way between a mobile device, a computer attached to a mobile structure, a desktop computer or a server without altering the function, features, scope, or intent of the invention.

[015] According to one aspect of the invention, the system may include a speech unit interface device that receives spoken natural language requests, commands and/or other utterances from users, and a computer device or system that receives input from the speech unit and processes the input and responds to the user with a natural language speech response.

[016] According to another aspect of the invention, the system may be interfaced by wired or wireless connections to one or more other systems. The other systems may themselves be distributed between electronic controls or computers that are attached to a mobile structure or are located external to the mobile structure. The other systems may include, electronic control systems, entertainment devices, navigation equipment, measurement equipment or sensors, or

other systems. External systems may also be provided with features that include payment systems, emergency assistance networks, remote ordering systems, automated or attended customer service functions, or other features.

[017] According to another aspect of the invention, the system may be deployed in a network of devices that share a common base of agents, data, information, user profiles, histories or other components. Each user may interact with, and receive, the same services and applications at any location equipped with the mobile device on the network. For example, multiple mobile devices may be placed at different locations throughout a home, place of business, vehicle or other location. In such a case, the system can use the location of the particular device addressed by the user as part of the context for the questions asked.

[018] According to one embodiment of the invention, processing may be performed at the mobile devices. The commands may be processed on-board to enable the mobile devices to control themselves and/or to control other mobile devices, fixed computers, mobile telephones, and other devices. Additionally, mobile devices may track context.

[019] According to one embodiment of the invention, infrastructure may be provided to maintain context information during multimodal interactions, such as speech and/or non-speech interactions. According to one exemplary embodiment of the invention, context information may be maintained in a multimodal environment by providing communication channels between mobile device, or multimodal devices, and the system. The communication channels allow the system to receive multimodal input such as text-based commands and questions and/or voice-based commands and questions. According to another embodiment of the invention, the multimodal input may include a string of text, such as keywords, that are received as commands or questions. According to yet another embodiment of the invention, the system may synchronize the context between the mobile devices and the speech-based units. In order to send a response to the corresponding mobile device, the system may track the source and send the response to the corresponding speech interface or the non-speech interface.

[020] According to an alternative embodiment of the invention, context information may be maintained using a context manager that may be centrally positioned to receive input from

multiple mobile devices and to provide output to multiple mobile devices. According to one embodiment, the mobile devices that communicate with the context manager may register through a registration module and may subscribe to one or more events. According to another embodiment of the invention, the context manager may receive input in Context XML form, for example. The other registered mobile devices may be informed of context changes through a context tracking module to enable synchronizing of context across the registered modules. According to one embodiment of the invention, registered modules may be added or removed from the system. The registered modules may include dynamic link libraries (DLLs), or other information sources, that are specific to multimodal devices.

[021] According to yet another alternative embodiment of the invention, context information may be determined from a command or request that is presented in a textual format and/or a command or request that is presented as an utterance and processed using a multi-pass automatic speech recognition module that transcribes the utterance to a text message. The command or request may be compared against a context description grammar to identify a match. Any active grammars in the context description grammar may be scored against the command or request and a best match may be sent to a response generator module. Agents may be associated with corresponding response generator modules and may retrieve the requested information for generation of a response. The agents may update a context stack to enable follow-up requests.

[022] According to another embodiment of the invention, mobile devices may be configured to allow verbal annotations of objects stored thereon. Mobile devices may transcribe the verbal annotation to text and store the textual annotation with the object. Alternatively, mobile devices may be configured to enable users to manually input textual descriptions that are stored along with the objects. According to one embodiment of the invention, the textual annotations and/or textual descriptions may be classified and searched. In an alternative embodiment, mobile devices may classify and search the verbal annotations rather than textual annotations. However, classifying and searching verbal annotations may be considerably more difficult than classifying and searching textual annotations and/or textual descriptions.

[023] According to one embodiment of the invention, the textual annotations and textual descriptions may be communicated using a short message service on the mobile telephone or other device. Short message service is a text message service that enables sending and receiving of short textual messages. The textual messages may be stored at data centers for forwarding to intended recipients. Other configurations may be used.

[024] According to another aspect of the invention, domain specific behavior and information may be organized into data managers. Data managers are autonomous executables that receive, process and respond to user questions, queries and commands. The data managers provide complete, convenient and re-distributable packages or modules of functionality that are typically directed to a specific domain of applications. Data managers may be complete packages of executable code, scripts, links to information, and other forms of communication data that provide a specific package of functionality, usually in a specific domain. In other words, data managers may include components for extending the functionality to a new domain. Further, data managers and their associated data may be updated remotely over a network as new behavior is added or new information becomes available. Data managers may use system resources and the services of other, typically more specialized, data managers. Data managers may be distributed and redistributed in a number of ways including on removable storage media, transfer over networks or attached to emails and other messages. An update manager may be used to add new data managers to the system or update existing data managers.

[025] In order to enhance the natural query and response environment, the system may format results to increase understandability to users. Formatting and presentation of results may be based on the context of the questions, the contents of the response being presented, the history of the interaction with the user, the user's preferences and interests and the nature of the domain. By contrast, rigid, highly formatted, or structured presentation of results may be deemed unnatural by many users.

[026] According to another embodiment of the invention, the system may simulate some aspects of a human "personality". In some cases, the presentation of the response and the terms that are used to provide the response may be randomized to avoid the appearance of

rigidly formatted or mechanical responses. The use of other simulated personality characteristics is also desirable. For example, a response that may be upsetting to the user may be presented in a sympathetic manner. Furthermore, results of requests may be long text strings, lists, tables or other lengthy sets of data. Natural presentation of this type of information presents particular challenges because simply reading the long response is generally not preferred. Instead, the system may parse important sections from the response and may initially provide only reports. Determining what parts of a long response are presented may be based on the context of the questions, the contents of the response being presented, the history of the interaction with the user, the user's preferences and interests and the nature of the domain. At the same time, the system may give the user interactive control over what information to present and how much information to present, to stop the response all together, or to take other actions.

[027] The invention may be applied as a user interface to telematics systems in a wide variety of environments. These environments may include, but are not limited to, the following: 1) personal automobiles, rented automobiles, or fleet automobiles; 2) motorcycles, scooters, and other two wheeled or open-air vehicles; 3) commercial long-haul and short haul trucks; 4) delivery service vehicles; 5) fleet service vehicles; 6) industrial vehicles; 7) agricultural and construction machinery; 8) water-borne vehicles; 9) aircraft; and, 10) specialized military, law enforcement and emergency vehicles.

[028] According to another aspect of the invention, the system may process and respond to questions, requests and/or commands. Keywords or context may be used to determine whether the received utterance and/or textual message includes a request or command. For example, utterances may include aspects of questions, requests and/or commands. For example, a user may utter "tune in my favorite radio station." A request is processed to determine the name, the channel, and time for the users favorite radio station. If the programming on that station is of a type the user generally does not listen to, the system can suggest using an alterative option, such as listening to a CD more likely to please the user. A command must be executed to set a tune the radio station.

[029] The invention can be used for generalized local or network information query, retrieval and presentation in a mobile environment. For each user utterance, including a question or query or set of questions or queries, the system may perform multiple steps possibly including: 1) capturing the user's question or query through speech recognition operating in a variety of real-world environments; 2) parsing and interpreting the question or query; 3) determining the domain of expertise required and the context to invoke the proper resources, including agents; 4) formulating one or more queries to one or more local and/or network data sources or sending appropriate commands to local or remote devices or the system itself; 5) performing required formatting, variable substitutions and transformations to modify the queries to a form most likely to yield desired results from the available sources; 6) executing the multiple queries or commands in an asynchronous manner and dealing gracefully with failures; 7) extracting or scraping the desired information from the one or more results, which may be returned in any one of a number of different formats; 8) evaluating and interpreting the results, including processing of errors, gathered and combine them into a single best result judged to be "best" even if the results are ambiguous, incomplete, or conflicting; 9) performing required formatting, variable substitutions and transformations to modify the results to a form most easily understood by the user; 10) presenting the compound result, through a text to speech engine or multimodal interface, to the user in a useful and/or expected manner; 11) optionally, providing a response to users indicating the success or failure of the command, and possibly including state information; or other steps.

[030] The above steps may be performed with knowledge of the domain of expertise, the context for the question or command, domain specific information, the history of the user's interactions, user preferences, available information sources or commands, and responses obtained from the sources.

[031] Probabilistic or fuzzy set decision and matching methods may be applied to deal with inconsistent, ambiguous, conflicting and incomplete information or responses. In addition, asynchronous queries may be used to provide rapid and graceful failure of requests or commands that allow the system to robustly return results quickly and in a manner that seems natural to the user.

[032] Many everyday questions are inherently subjective and result in answers that are a matter of opinion or consensus, as much as fact. Such questions are often ad hoc in their nature, as well. The system, according to another aspect of the invention, may use adaptive, probabilistic, and fuzzy set decision and matching methods to identify the subjective nature of the question and to evaluate a range of possible answers, wherein one or more answers may be selected that most accurately represent the type of result desired by the user.

[033] The context and expected results from a particular question may be highly dependent on the individual asking the question. Therefore, the system may create, store and use personal profile information for each user. Information in the profile may be added and updated automatically as the user uses the system or may be manually added or updated by the user or by others. Domain specific agents may collect, store and use specific profile information, as may be required for optimal operations. Users may create commands for regularly used reports, automatically generated alerts, and other requests and for the formatting and presentation of results. The system may use profile data in interpreting questions, formulating requests, interpreting request results and presenting answers to the user. Examples of information in a user profile includes, history of questions asked, session histories, formatting and presentation preferences, special word spelling, terms of interest, special data sources of interest, age, sex, education, location or address, place of business, type of business, investments, hobbies, sports interests, news interests and other profile data.

[034] According to one aspect of the invention, the system may attempt to provide rapid responses in order to provide a natural question and response environment. The rapid responses may be provided without obtaining additional information. The system may determine agent composition, context and/or domain for a user's question or command, for example, by using a real-time scoring system or other technique. Based on this determination, the system may trigger one or more agents to respond to the user's question or command. The agents may make one or more requests and rapidly return a formatted response. Thus, users may receive direct responses to a set of questions, each with a different response or context. In some cases, the available information, including the request results, may not adequately answer the questions presented. In such situations, the user may be asked one or more follow-

up questions to resolve the ambiguity. Additional requests may then be made before an adequate response is provided. In these cases, the system may use context information, user profile information and/or domain specific information to minimize the interaction with the user required to deliver a response.

[035] If the confidence level of the domain or context score is not high enough to ensure a reliable response, the system may request that the user verify that the question or command is correctly understood. In general, the question may be phrased to indicate the context of the question including all criteria or parameters. If the user confirms that the question is correct, the system may proceed to produce a response. Otherwise, either the user can rephrase the original question, perhaps adding additional information to remove ambiguity, or the system may ask one or more questions to attempt to resolve the ambiguity or other actions may taken.

[036] According to one aspect of the invention, the system may accept any natural language question or command and, as a result, may be subject to ambiguous requests. To assist users in formulating concise questions and commands, the system may support a voice query language. The language may help users clearly specify the keywords or contexts of the question or command along with the parameters or criteria. The system may provide built in training capabilities to help the user learn the best methods to formulate their questions and commands.

[037] In order to make the responses to user's questions and commands seem more natural, the system may employ one or more dynamically invokeable personalities and/or emotional models. Personalities and emotional models have specific characteristics that simulate the behavioral characteristics of real humans. Examples of these characteristics include, sympathy, irritation, and helpfulness and associated emotions. The personality also randomizes aspects of responses, just as a real human would do. This behavior includes randomization of terms used and the order of presentation of information. Characteristics of the personality and/or emotions are invoked using probabilistic or fuzzy set decision and matching methods and using criteria, including the context for the question, the history of the user's interaction, user preferences, information sources available, responses obtained from the sources.

[038] According to another aspect of the invention, special procedures may be employed to present information in the form of long text strings, tables, lists or other long response sets. Simply presenting a long set of information in an ordered manner may not be considered natural or what most users have in mind. The system may use probabilistic or fuzzy set matching methods to extract relevant information and present these subsets first. Further the system may provide commands allowing users to skip through the list, find keywords or key information in the list or stop processing the list altogether.

[039] According to one embodiment of the invention, the system may support multiple users that access the system at different times. According to another embodiment of the invention, the system may support multiple users that access the system during a same session, in an interleaved or overlapping manner. The system may recognize the multiple users by name, voice, or other characteristic and may invoke a correct profile for each user. If multiple users are addressing the system in overlapping or interleaved sessions, the system may identify the multiple users and may invoke one or more corresponding profiles. For applications that require security safeguards, the multiple users may be verified using voiceprint matching, password or pass-phrase matching, or other security safeguards.

[040] When multiple users are engaged in interleaved sessions, the system may gracefully resolve conflicts using a probabilistic or fuzzy set decision method for each user. This process may simulate the manner in which a human would address multiple questions from various sources. For example, the system may answer short questions first in time while answering longer questions later in time. Alternatively, the system may answer questions in the order that they are received, among other configurations.

[041] Since the invention may operate in many environments, including mobile environments with background noise, point noise sources and people holding conversations, filtering of speech input may be advantageous. The invention may use, for example, either one-dimensional or two-dimensional array microphones (or other devices) to receive human speech. The array microphones may be fixed or employ dynamic beam forming techniques. The array pattern may be adjusted to maximize gain in the direction of the user and to null point noise sources. Alternatively, microphones may be placed at particular locations within

the mobile environment near where occupants are likely to use the system. These microphones can be single microphones, directional microphones or an array of microphones. Speech received at the microphones may then be processed with analog or digital filters to optimize the bandwidth, cancel echoes, notch-out narrow band noise sources, or perform other functions. Following filtering, the system may use variable rate sampling to maximize the fidelity of the encoded speech, while minimizing required bandwidth. This procedure may be particularly useful in cases where the encoded speech is transmitted over a wireless network or link.

[042] The invention can be applied to a wide range of telematics applications. General applications areas can include, but are not limited to remote or local vehicle control, information query, retrieval and presentation from local or network sources, safety applications, and security applications.

[043] The system may provide local or remote control functions for the system, including devices that are located on the mobile structure or off the mobile structure. Users may initiate commands locally or remotely. Typically, remote operation may be conducted through an IP connection, a telephone connection, or other connections. The user may address spoken commands to a mobile device or desktop unit, which may send the commands to controllers on the vehicle over wireless links. Other remote command techniques may be used. The system may process commands in a nearly identical manner to a request. One difference being that the result of the command is generally an action rather than a response. In many cases, the system may give the user a cue or response to indicate that the command has been successfully executed or has failed. In cases of failure, an interactive session may be started to allow the user to resolve the difficulty or formulate a command more likely to succeed.

[044] The invention provides users, including mobile structure operators, with the capability to control most any mobile system functions using interactive speech and non-speech commands and/or requests. Generally, controls of a critical nature, or having safety implications, may employ fail-safe checks that, before execution, verify that a command will not create a hazardous condition. Manual overrides may also be provided as an extra precaution. The invention may provide built in help and user guidance for the devices under control. This

guidance may include step-by-step training for operators that are learning to use the features of the mobile structure. The system can provide extensive interactive guidance when commands cannot be executed or when commands fail. This advice may include suggestions to reformulate the command to succeed, suggestions to work around a failure, suggestions for alternative commands that may achieve a similar function, or other suggestions. Examples of control functions that can be performed from local or remote locations by the invention include:

1. Control of mobile structure multimedia entertainment electronics, such as radio, CD player, or video player. This control can be based on user specified play lists and may be sensitive to user profile information including, preferences history, or other information. The invention may include the ability to control multiple or individual multimedia entertainment stations.

2. Control of communications devices such as cell phones, voice mail systems, fax systems, text or instant messaging systems, call and message forwarding systems, email systems and other communication devices. This control includes controlling features such as, address books, phone books, call forwarding, conference calling, and voice mail, among others.

3. Local or remote control of mobile structure systems. Most any device on the mobile structure may be controlled including, door locks, window controls, interior temperature controls, shifting of the transmission, turn signals, lights, safety equipment, engine ignition, cruse control, fuel tank switches, seat adjustments, specialized equipment such as winches, lifting systems or loading systems, and other mobile structure systems.

4. Systems that are located external to the mobile structure typically may be controlled through wireless links including, garage door openers, gate controllers, mobile structure entry security passes, automated toll collection systems, and mobile structure weighing systems and other external systems.

5. Mobile structure power management and systems control. The invention may provide the mobile structure operator with information on limitations and on tips for better power management or fuel utilization or other systems control.

6. Diagnostic information management. The invention may provide diagnostic information announcements and warnings for the mobile structure operator. These announcements and warnings may be interactive allowing the operator to request additional information or to suggest various courses of action. The invention may mediate a solution to the problem, including providing access to a scheduling service, summoning help or providing instructions for remedial action until a permanent solution can be achieved. The system can ask the operator to authorize the ordering of needed parts and may provide cost estimates. The system may receive data for these announcements and warnings from a wide range of sources including sensors and vehicle control computers. Sensors may include fuel level sensors, coolant temperature sensors, oil temperature sensors, axel temperature sensors, tire pressure sensors, and other sensors.

7. System status inquiry. Mobile structure operators may use the interactive natural language interface of the invention to query and receive reports on the status of systems that are located on the mobile structure including, fuel level, interior temperature, outside temperature, engine or other mobile structure system status. The operator can further query the system to receive more information or determine a course of action if problem is detected.

8. Vehicle service history. The invention can provide the vehicle operator or other personnel with interactive access to the vehicle service history. The invention can provide announcements or warnings as the time for service draws near. The user can interact with the system to schedule the required service, order required parts, receive cost estimates, or update the service history. Users may customize the nature of this interaction to suit their desires or policies.

9. Diagnostic and service history. The invention may provide diagnostic and service history information to service personnel. This information may include vehicle fault

codes and other information for devices that are under control of or measured by the system. Alternatively, the invention may receive information on the state and history of vehicle operation from other control computers. The invention may provide interactive service information and history. The service history may be queried and presented through the speech interface or the non-speech interface. The system may prompt service personnel for more information if the record is deemed incomplete. In other cases, the invention may prompt service personnel for information on their actions if a change is detected in system status, such as replacement of a part.

[045] The invention can provide users or operators of a mobile structure with specialized safety functions through the interactive speech interface and/or non-speech interface. The invention may use a dynamically evocable personality that is capable of creating announcements that are appropriate for the severity of the situation. The announcements and personalities may be under user control and configuration. Some examples of these safety applications can include:

1. The invention can provide automated detection and reporting of accident situations through the wireless communications link. Information on an accident situation can be gathered from airbag control systems or other sensors. Once an accident situation has been detected the invention may use the interactive speech interface and/or non-speech interface to determine the nature of the accident and/or the condition of victims. This information, along with location information and other relevant information, may be reported over the wireless link. Alternatively, the invention may establish voice channel communications or other communications between occupants of the vehicle and emergency personnel.

2. The invention can be used to store and retrieve medical information on vehicle occupants. Following an accident, emergency personnel may query the system for this information. Alternatively, the system may annunciate a warning to emergency personnel if a person has a special medical condition. The system maintains the security of medical information through a number of techniques, including not annunciating

medical information unless an accident is detected, or not annunciating medical information unless that person or another authorized person gives permission.

3. Occupants of the vehicle can summon help in the event of a crime using the speech interface and/or non-speech interface. Typical crimes may include robberies and hijackings. The invention allows vehicle occupants to set panic or emergency words or phrases that indicate to the system a crime is occurring.

4. The invention can provide the vehicle operator with safety announcements if an unsafe or potentially unsafe situation is detected. The operator can use the interactive speech interface and/or non-speech interface to obtain more information on the situation or dismiss the alert. The operator can annunciate or otherwise provide commands to remedy or mitigate the situation during this dialog. Conditions that can be announced include, following another vehicle too closely, too great a speed for the road or conditions, obstruction on roadway, a fire in some part of the vehicle, high cargo pressure or temperature, leaks, and other information.

5. The interactive speech interface and non-speech interface of the invention can provide the operator with real-time assistance. This assistance may include, aid in parking or backing a vehicle, aid with complex maneuvers, aid with optimal operation of the vehicle, and other operations. The operator can ask the system for advice or assistance with a planned maneuver or operation. Alternatively, the invention can proactively offer assistance if certain situations are detected.

6. The interactive speech interface and non-speech interface may be used to improve vehicle security. Voiceprints or voice authentication can be used to gain access to the vehicle or start the vehicle. Alternatively or in addition, a password or pass-phrase can be used. In another alternative speech security can be used as a supplement to other vehicle security techniques.

7. The invention can provide measurement of operator fatigue and alert the operator or remote personnel if unacceptable levels of fatigue are detected. The interactive speech interface and/or non-speech interface can be used to query the operator to detect fatigue. Alternatively, or in addition, other measurements of

operator fatigue can be used. If a fatigue situation is detected the invention may initiate a dialog with the operator to determine the extent of the problem and if required, ask the operator to cease operation.

[046] The invention can offer vehicle operators and occupants a variety of services that are useful while in the vehicle and/or while arriving at a destination. Further, users can employ the interactive natural language interface to customize these services to suit each individual. Some examples of services that can be supported by the natural-language interactive speech interface of the invention, include:

1. Providing vehicle operators with interactive directions to a destination or waypoint, wherein the user can specify a desired destination and any preferred waypoints. A destination can be specified in any manner including providing the name of a place, an address, a name of a person, a name of a business, or other type of information. As the trip progresses the system may provide the operator with continued directions and warnings if a mistake has been made. The operator can query the system for additional information or request less information. Generally, the system is interfaced with one or more navigation sensors and local or remote map databases. The invention may provide operators or passengers with alerts of upcoming points or interest, exits or stops, hazards, or other conditions. The users can query the system for more specific information. Alternatively, the invention can provide operators and occupants of the vehicle with an interactive guided tour. The system's information query, retrieval and presentation capability can be employed by users to receive additional information or points or items of interest during the tour and may take into account stored personal profile information for a user.

2. The invention can provide the operator of a vehicle with interactive dynamic routing information. The routing can be updated based on traffic conditions, weather conditions, facilities availability, and information provided by the operator. Generally, the system is interfaced with one or more navigation sensors, local or remote map databases, and sources of traffic, weather, and facilities use data.

3. The direction, routing and communications capabilities of the invention can be combined in an interactive system that helps one or more operators rendezvous at a predetermined destination or any other convenient midpoint. The operators may use the interactive natural language interface to communicate with the system to arrange the rendezvous, to receive directions as they travel to the rendezvous point and/or to communicate with the other operators.

4. The navigational capabilities of the invention may be used to place limits on where a vehicle is allowed to go and/or for how long. The system may employ the interactive natural language speech interface and/or non-speech interface to inform the operator when the vehicle is approaching or has exceeded a limit. The operator can query the system to determine the best course of action to return to limits or prevent exceeding them. Alternatively, the system can query the operator to determine why they are exceeding the limits or to mediate a negotiation to extend the limits if this is required by circumstances. This capability is useful in several situations including, keeping a delivery or passenger vehicle on a regular route, setting and enforcing use limits on teenagers, preventing an operator from using the vehicle in an unauthorized manner, or other situations.

5. The interactive natural language interface of the invention can be used to provide Customer Relationship Management (CRM) services to vehicle operators and passengers. The user can interact with the services offered via data networks, video signals, or audio. The interaction can be performed with automated services or a live Customer Service Representative. Interactions with the customer service representatives can be through any combination of possible techniques, such as, live audio, live video, electronic messaging or email, instant messaging, and other techniques. These services can be offered by a number of entities including, vehicle manufacturers, vehicle dealers, vehicle service organizations, automobile or travel clubs, wireless carriers, travel service organizations, or other organizations. The services offered can be personalized to the occupants of the vehicle using a variety of information including, user profile information, history, location, paths traveled, time of

day, day of week, or other information. In addition, the system can offer customized services based on information about the vehicle, including paths traveled, distance, service history, type of equipment on vehicle. These services can be accessed while a person is an occupant in a vehicle, while the person is not an occupant but are using a wireless or wired network equipped mobile device or while using a wired or wireless network desktop system, among other situations. Examples of these services include:

a. Location based marketing programs wherein occupants of the vehicle receive promotional offers from merchants along a route of travel. Occupants can query the system for offers and promotions for goods, services, or other information, along the travel route. The system may apply other available information to form a response, including, the user profile, history, location, or other information. The system can provide optimized interactive routing assistance to the vehicle operator. Alternatively, the system can provide interactive offers and promotions for goods and services along the route, or in advance of a particular trip. Promotions can be offered for goods and services can include but are not limited to, travel services, groceries, prepared foods, vehicle service, fuel, entertainment, or other goods and services.

b. Remote ordering and payment for goods and services. The system can interactively present the menu or product catalog using the list and table presentation capabilities of the invention. The system may facilitate remote ordering by using location information, customer preferences, customer order history, etc. The system can manage a secure payment wallet for the users. Voiceprints, spoken passwords, and non-speech security methods (i.e. PIN pad, etc.) can be combined to create the appropriate level of security.

c. Travel services for occupants of the vehicle. These services can include, directories of travel and entertainment services, or reservations for entertainment restaurants, hotels and other accommodation. The system may present directories, lists and menus using its interactive list and table presentation capabilities. The travel service capability can be used in

conjunction with the remote ordering and payment capabilities and the dynamic interactive routing capability.

d. Answer specialized travel related questions in areas such as vehicle registration, taxes, safety laws, required inspections, weight limits, insurance coverage requirements, insurance policy provisions, or other areas.

6. The invention can provide an operator or other occupant of a vehicle with an interactive location sensitive shopping list or a location and time sensitive task reminder list using the natural language interface. Users can create the list while in the vehicle, while on foot using a mobile device, or at a fixed location using a handheld or desktop device. A user may grant permission to other users to add tasks or shopping items to their lists. Once in the vehicle, the system may provide occupants with routing assistance to optimize travel time and may provide reminders of items to be purchased and tasks to be completed as the vehicle comes in close proximity to a particular location, type of merchant or other service provider, or when a set time has been reached, among other criteria.

7. Automatic interactive dispatch and reporting for fleet vehicles having vehicle operators or other vehicle occupants that use the speech interface and/or non-speech interface to interact with these services. These services can include, dynamic optimal routing, inventory of parts and other materials, ordering of required parts and materials, work orders, receipt generation, payments, or other services.

8. Sales force automation, sales reporting, contact database management, calendar management, and call routing. The system may employ its interactive list and table presentation capabilities to supply catalog and pricing information or other information. These services can use local or network data. Additional services can include, memos, reminders, activity lists, or other information.

[047] Vehicle operators and other occupants can use the interactive natural language interactive interface of the invention to perform many types of information query, retrieval and presentation operations. Using the natural language interactive interface, users can modify the parameters of queries or specify the presentation formats for results. Data used to create a

response can be from any combination of local and remote data sources. User specific data can be synchronized between systems fixed to one or more vehicles, mobile structures and desktop systems. Some examples of information query, retrieval and presentation applications for the invention include, but are not limited to the following:

1. White pages and yellow pages lookups to find, email addresses, telephone numbers, street addresses and other information for businesses and individuals. These services can be used in conjunction with other services, including remote ordering and payment, offers and promotions, mapping, and driving directions;

2. Management and access to personal address book, calendars and reminders for users;

3. Automatic telephone dialing, reading and sending emails, pages, instant messaging by voice, text or video and other communications control functions;

4. Selection, schedules and play list management for television, satellite broadcast, radio or other entertainment schedule. The available information can include reviews and other information on programming. The system may provide device control for users;

5. Weather information for the local area or other locations;

6. Stock and other investment information including, prices, company reports, profiles, company information, business news stories, company reports, analysis, price alerts, news alerts, portfolio reports, portfolio plans, or other information;

7. Local, national and international news information including headlines of interest by subject or location, story summaries, full stories, audio and video retrieval and play for stories;

8. Sports scores, news stories, schedules, alerts, statistics, background and history information, or other information;

9. The ability to subscribe interactively to multimedia information channels, including sports, news, business, different types of music and entertainment, applying user specific preferences for extracting and presenting information;

10. Rights management for information or content that is used or published;

11. Horoscopes, daily jokes and comics, crossword puzzle retrieval and display and related entertainment or diversions;

12. Interactive educational programs using local and network material, with lesson material level that is set based on user's profile, location of the vehicle, planned route of the vehicle, planned activities during the trip and including, interactive multimedia lessons, religious instruction, calculator, dictionary and spelling, geographic information, instruction for specialized tasks planned during the trip, language training, foreign language translation, presentation of technical manuals, and encyclopedias and other reference material.

[048] It will be appreciated that the foregoing statements of the features of the invention are not intended as exhaustive or limiting, the proper scope thereof being appreciated by reference to this entire disclosure and reasonably apparent variations and extensions thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

[049] The invention will be described by reference to the preferred and alternative embodiments thereof, in conjunction with the drawings in which:

[050] Figure 1 is an overall block diagram of the system according to a first embodiment of the invention;

[051] Figure 2 is an overall block diagram of the system according to a second embodiment of the invention;

[052] Figure 3 is an overall block diagram of a mobile device according to an embodiment of the invention;

[053] Figure 4 is an overall block diagram of a fixed computer according to an embodiment of the invention;

[054] Figure 5 is an overall diagrammatic view of the interactive natural language processing system according to an embodiment of the invention;

[055] Figure 6 is a schematic block diagram showing the agent architecture according to an embodiment of the invention;

[056] Figure 7 illustrates a diagram for centrally maintaining context, according to one embodiment of the invention; and

[057] Figure 8 illustrates a system diagram for an enhanced conversational voice user interface according to one embodiment of the invention.

DETAILED DESCRIPTION

[058] The following detailed description refers to the accompanying drawings, and describes exemplary embodiments of the invention. Other embodiments are contemplated and modifications may be made to the exemplary embodiments without departing from the spirit, functionality and scope of the invention. Therefore, the following detailed descriptions are not meant to limit the invention.

[059] According to one embodiment of the invention, a telematic natural language speech interface and non-speech interface are provided for use in mobile environments and telematic applications. The system, or portions thereof, may be used in vehicles, while on foot or at a fixed location such as an office or home, or at other locations. An overall block diagram of one embodiment of the invention is illustrated in Figure 1.

[060] A speech unit 128 and/or a keypad 14 may be integrally coupled to a mobile structure 10 or may be part of mobile devices 36, fixed home or office computer systems 44, or other devices. Mobile devices 36 may include mobile telephones, personal digital assistants, digital radios, compact disk players, navigation systems, or other mobile devices. The mobile devices 36 may be configured to integrate with set-top boxes, alarm clocks, radios, or other electronic components. The speech unit 128 and/or keypad 14 may be interfaced to a Telematics Control Unit (TCU) 28 through one or more data interfaces 26. According to some embodiments, the main speech-processing unit 98 may be embedded in one or more TCU 28. In some embodiments, the components of the speech unit 128 may also be distributed between one or more TCUs.

[061] A speech-processing unit may be built into mobile devices 36 and may be coupled with the data interfaces 26 though a wireless, or wired, handheld interface 20. Other user interface peripherals may be connected to the TCU through the data interfaces and may include displays

18, such as touch screen displays for displaying text, graphics and video; keypads 14 for receiving textual data input; video cameras 16 for receiving multimedia communications or conferences; a pointing device or stylus, or other user interface peripherals. Other devices may be connected to the TCU through the data interfaces including wide-area RF transceivers 24, navigation system components 22, or other devices. The navigation system may include several components such as, Global Positioning System (GPS) receivers or other radiolocation system receivers, gyroscopes or other inertial measurement equipment, distance measurement sensors, such as odometers, or other components. Radiolocation equipment may receive coded signals from one or more satellites or terrestrial sources 40. The one or more location service servers 48 may assist the navigation system. Other systems that can connect to the TCU through the data interfaces may include automotive control computers, digital control interfaces for devices such as media players or other electronic systems, measurement sensors, or other specialized electronic equipment.

[062] The control and device interfaces 30 may connect the TCU 28 to various devices 32 within the mobile structure 10. The control and device interfaces 30 may be used to execute local or remote commands from users of the natural language interface. In some cases, the control and device interfaces 30 may include specialized hardware for interacting with different types of devices. The hardware interfaces may include analog or digital signal interfaces for device control, along with analog or digital interfaces for measurements that may control devices 32. These interfaces may also include specialized software that encapsulates or abstracts specific behavior of the devices 32. The interface software may include one or more drivers that are specific to the hardware interface and to one or more agents. The domain agents may include the specialized software behavior and data required to control a particular device or class of devices. New or updated behavior may be added to the system by updating data managers that are associated with specific devices or class of devices. The devices 32 may include manual controls or manual overrides 34. For safety reasons, the control and device interfaces 30 may incorporate fail-safe systems that, for example, may verify operating limits before changing settings, ensuring that commands do not conflict with settings from manual controls, and will not, in some combination with other commands or device settings, create an

unsafe situation. The software behavior and data that ensures safe operations may be included within the domain agent that is specific to the device or class of devices. Examples of devices and system that can be controlled through the control and device interfaces 30 include, power management systems, measurement sensors, door locks, window controls, interior temperature controls, shifting of the transmission, turn signals, lights, safety equipment, engine ignition, cruise control, fuel tank switches, seat adjustments, specialize equipment such as winches, lifting systems or loading system, and other systems.

[063] The wide-area RF transceiver 24 may communicate with one or more wide-area wireless networks 38, which may be connected to data networks 42, including the Internet, the Public Switched Telephone Network (PSTN) 42 or other data networks. The wide-area wireless networks can be of any suitable terrestrial or satellite based type. Mobile devices 36 may communicate with one or more local or wide-area wireless networks. Home or office systems 44, equipped with wired or wireless network interfaces, may communicate through the data networks or PSTN.

[064] According to one embodiment of the invention, data and agents may be stored and synchronized in mobile structures 10, mobile devices 36 and/or fixed systems 44 having one or more main speech-processing units 98. The synchronization between these different systems can occur on the wide area wireless network 38, the data network 42, through the handheld interface 20, or other local data connections. The synchronization may be performed automatically when any two or more of the computers are connected to these networks. Alternatively, the synchronization may be performed on demand under user control. The synchronization process attempts to determine which version of a data element or an agent are the newest or most up-to-date and propagates that element. Thus, synchronization is an incremental change processes. In some cases, a complete replacement of a database, a portion of the database or of one or more agents may be performed rather than performing a series of incremental updates.

[065] The wide-area wireless networks 38, the data networks 42 or PSTN, may connect mobile structures 10, mobile devices 36 and fixed computers 44 to one or more servers that provide one of more services. According to one embodiment of the invention, an interactive natural

language user interface may be provided that supports a transfer of data or transmission of speech, text, video and other formats. For data centric applications, a standardized data transfer format may be used including, for example, Hypertext Markup Language over Hypertext Transfer Protocol (HTTP), Extensible Markup Language (XML), and other data formats or schemas, over HTTP or other transfer protocol, Electronic Data Interchange formats over a variety of transport protocols, etc. It will be understood that the exact configuration of the servers may be determined on a case-by-case basis with consideration being given to the exact combinations of services being offered, the service providers providing the services, the contractual relationships between the service provider, and other factors. The invention supports any suitable configuration. In each case these servers may themselves be distributed over one or more public or private networks. Some examples of servers that may be used to deliver these services, are given below:

1. One or more payment service providers 56 that supply payment capabilities to users. These payment services may include electronic wallet capabilities for one or more payment accounts and may include payment security information, payment account information, transaction histories, account balance information, and other information. Exemplary payment types include, stored value accounts, promotional accounts, credit accounts, telecommunications billing accounts, debit accounts, or other payment types that are accessed using online or offline methods. Payments can be computed in any manner including payment for a specific good or service, subscription payment, metered payment, or other payments. The payment services can be distributed in a number of ways. Examples of computers and servers used to store and process payment transaction information include, smart cards, main speech processing units 128, mobile devices 36, TCUs 28, fixed personal computers 44, payment gateways, payment servers 56, or other systems.

2. One or more Customer Relationship Management (CRM) systems 52 may supply any number of consumer and business customer services as discussed above. The CRM system can supply automated services or services that are partly or completely manual. For manual services one or more customer service representatives may use one or more

service representative workstations 54. The CRM system and the service representative workstation may be connected to one or more data networks 42 or the PSTN. Any other servers may also have connections to one or more service representative workstations, which may be in common or independent of each other.

3. One or more specialized service servers 50 may support specialized consumer and business services.

4. One or more location service servers 48 may supply location information and location based services. The location data is used as a data input to the location services that may then be distributed in any suitable manner including, on main speech processing units 128, mobile devices 36, TCUs 28, fixed personal computers 44, other servers (i.e. 46, 50, 52, 56) or the one or more location services servers 48.

5. One or more emergency services servers 46 may supply both public and private emergency services to the users.

[066] Main speech processing unit 98, speech unit 128 and keyboard 14 may be distributed in mobile devices 36 in a number of ways. For example, these units may be attached to the mobile devices 36 as independent components or as a single integrated component. In another embodiment of the invention, some or all of the main speech processing unit 98 and speech unit 128 may be embedded in one or more of the TCUs 28, mobile devices 36, fixed computer systems 44, or other devices.

[067] Figure 2 illustrates an alternative block diagram of a second embodiment of the invention. In this embodiment, the main speech processing unit 98 and speech unit 128 are external to the TCU 28. These components may be housed in one or more packages or may be included in a single integrated package.

[068] In all other respects, the second embodiment resembles the first embodiment illustrated in Figure 1. It will be understood that the exact distribution and packaging of the main speech processing unit 98 and speech unit 128 may be determined by the details of the deployment situation and should not change the functionality, capabilities or spirit of the invention in any way.

[069] Figure 3 illustrates a block diagram of one embodiment of the mobile devices 36 that include main speech processing unit 98 and speech unit 128 embedded in the mobile device 36, mobile telephone or other mobile device. The main speech processing unit may interface to one or more processing units 70 located in the mobile device 36. The processing units 70 may include one or more central processing units, one or more data and address busses, data interfaces, volatile memory, or other components. The processing units 70 may use one of more types of nonvolatile memory 80 for software and data storage. Suitable types of nonvolatile memory 80 may include flash memory and hard disk drives. In some embodiments, the main speech processing unit 98 may be integrated with the one or more processing units 70.

[070] According to one embodiment, users may interact with the mobile device 36 through the speech unit 128, the keypad 74 or keyboard, a display 72 that displays text, graphics, video, or other peripheral. In some embodiments the display may be a touch screen type. Alternatively, a pointing device (not shown) may be used, among other devices.

[071] The mobile device 36 may connect to one or more wired or wireless wide-area or local-area networks through one or more interfaces. A wide-area network transceiver 78 may connect to the wide-area wireless network 38 or the data network 42 using a wireless or wired connection, including an IP connection, a dial-up PSTN network connection or other connections. The local-area network transceiver 76 may connect to wired or wireless local area networks. These networks may include the handheld interface 20 or connections to fixed computer systems 44. In both mobile device environments and fixed computer environments, communications between humans and machines may not provide accurate results at least because natural language commands may be incomplete in their definition. The occurrence of inaccurate results may be reduced by leveraging context of previous utterances, knowledge of the domain and/or the user's history of interests and preferences or other factors.

[072] According to one embodiment of the invention, processing may be performed at the mobile devices 36. Alternatively, the processing may be performed on the server side. In yet another embodiment, the processing may occur on both the mobile devices 36 and the server side. The commands may be processed on-board the mobile devices 36 to enable the mobile

devices 36 to control themselves and/or to control other mobile devices 36, fixed computers 44, mobile telephones, or other devices. Additionally, mobile devices 36 may track context. According to another embodiment of the invention illustrated in FIG. 7, a context manager 702 may be centrally maintained to allow input to and output from multiple mobile devices 36. Each of the mobile devices may communicate with the context manager 702 to register via registration module 712, wherein registration may indicate events that the mobile devices 36 may subscribe to. The context manager 702 may receive input in Context XML form, for example. The other registered mobile devices 36 may be informed of context changes through context tracking module 714, thereby synchronizing the context across the registered mobile devices 36. According to one embodiment of the invention, registered mobile devices 36 may be added or removed. The registered mobile devices 36 may be dynamic link libraries (DLLs), object code, or other data that may be specific to the mobile device 36.

[073] According to yet another alternative embodiment of the invention, context information may be determined from a command or request that is presented as a text message and/or a command or request that is presented as a verbal utterance and processed using a multi-pass automatic speech recognition module that transcribes the verbal utterance to a text message. The multi-pass automatic speech recognition module may use a dictation grammar or a large vocabulary grammar, among other resources, to transcribe the verbal utterance into a text message. On platforms where a dictation grammar is not available, the multi-pass automatic speech recognition may use a virtual dictation grammar that uses decoy words for out-of-vocabulary words. Decoy words may include utility words, nonsense words, isolated syllables, isolated distinct sounds and other decoy words.

[074] According to one embodiment of the invention, the text message may be searched for a particular character, group of characters, word, group of words, and other text combinations. The text combination may be compared against entries in a context description grammar that is associated with each agent 106. If a match is identified between an active grammar in the context description grammar and the command and/or request, then the match may be scored. The agents 106 may be ranked based on the determined score. In generating an aggregate response from the one or more responses received from the agents 106, the ordering of the

responses from the individual agents may be determined based on the rank of agents 106. The aggregate response may be generated by a response generator module. Agents 106 may update a context stack, that includes an ordered list of command contexts, to enable follow-up requests.

[075] According to another embodiment of the invention, if a match is not found, or only a partial match is found, between the text message and active grammars, then a knowledge-enhanced speech recognition system may be used to semantically broaden the search. The knowledge-enhanced speech recognition system may be used to determine the intent of the request and/or to correct false recognitions. The knowledge-enhanced speech recognition may access a set of expected contexts that are stored in a context stack to determine a most likely context. The knowledge-enhanced speech recognition may use context specific matchers that are able to identify context such as time, location, numbers, dates, categories (e.g., music, movies, television, addresses, etc.) and other context. The matching may be performed by comparing a character, group of characters, a word, group of words, and other text combinations. Alternatively, or in addition to text based matching, the matching may be performed using phonetic matching, among other techniques. The results of any match may be used to generate a command and/or request that is communicated to agents 106 for additional processing. According to one embodiment of the invention, non-speech interface 114 may show system, state and history information in a more concise manner than is possible through the speech interface. Non-speech interface 114 may be accessed to create or extend capabilities of agents 106. These operations may include scripting of agents, adding data to the agent or databases 102 used by the agent, adding links to information sources, among other operations.

[076] According to another embodiment of the invention, mobile devices 36 may be configured to allow speech annotations of objects stored thereon. The objects may include photographs, calendar entries, email messages, instant messages, phonebook entries, voice mail entries, digital movies or other objects. Mobile devices 36 may transcribe the speech annotations to textual annotations and store the textual annotations with the object.

Alternatively, mobile devices 36 may be configured to enable users to input non-speech annotations, such as textual descriptions, that are stored along with the objects.

[077] According to one embodiment of the invention, the annotated objects may be stored on a server side, a client side, a combination of server side and client side, or according to other configurations. The invention further contemplates collaboratively exchanging and sharing the annotated objects among distributed workgroups that may include centralized servers having shared workspaces for providing common object storage and retrieval facilities. The shared workspaces may be implemented on the centralized servers and may be accessed from different platforms using the mobile devices 36. The system may include a peer-to-peer system for accessing the annotated objects.

[078] According to one embodiment of the invention, the non-speech annotations may be classified and searched. In an alternative embodiment, the speech annotations may be classified and searched. However, classifying and searching speech annotations may be considerably more difficult than classifying and searching non-speech annotations.

[079] According to another embodiment of the invention, the textual annotations and/or textual descriptions that are associated with the objects may be stored as metadata, thereby enabling searching for the objects using the metadata. The metadata may include GPS information, environmental information, geographic information, or other information. For example, proximity to famous landmarks may be determined using GPS information, environmental information, geographic information, or other information, and this information may be integrated into the metadata associated with the objects. According to one embodiment of the invention, GPS coordinates may be stored in the metadata associated with the objects and users may search for selected objects based on the GPS coordinates. A user may provide a speech command such as "show me all the photos of Greece." In this case, the system would limit the type of object to photographs and would determine the GPS coordinates of Greece. The system would then search the metadata for objects that correspond to photographs and that also satisfy GPS coordinates for Greece. According to another embodiment of the invention, including GPS coordinates in the metadata of objects enables post-processing of the objects based on the GPS coordinates. For example, the objects

may be subjected to an initial sort based on generalized GPS coordinates that are stored in the metadata and may be subjected to additional sorting based on more particular criteria for the GPS coordinates. Thus, a user may initially search for object metadata that corresponds to a location near a famous landmark and may use image matching to label the objects with the searchable metadata (i.e., textual descriptions). For example, using the GPS coordinates stored in the metadata, users may first determine that photographs were taken at the Jefferson Memorial and may use this information to label the photographs with searchable metadata (i.e., textual descriptions) including "photo of the Jefferson Memorial." One of ordinary skill in the art will readily appreciate that metadata may include various types of information and may be searched using the various types of information.

[080] According to one embodiment of the invention, the textual annotations may be communicated using a short message service on the mobile telephone or other device. Short message service is a text message service that enables sending and receiving of short textual messages. The textual messages may be stored at data centers for forwarding to intended recipients. Other configurations may be used.

[081] According to another embodiment of the invention, the mobile devices 36 may support multi-modal communications that enable displaying of non-speech search results on a graphical interface and receipt of speech commands to provide a follow-up search, among other configurations. For example, the user may be presented with textual search results corresponding to a name of a famous person and the user may provide a speech command to find a biography of the famous person. The system may maintain the context of the textual search results to find the biography associated with the famous person. By contrast, known systems may perform a follow-up search on the term "biography" and may present a dictionary definition of the term "biography."

[082] Figure 4 illustrates an embodiment that uses a fixed computer 44. In some embodiments, the main speech processing unit 98 and speech unit 128 may be embedded into the fixed computer 44. The main speech processing unit may interface with one or more processing units 84 that are associated with the fixed computer. The processing units may include one or more central processing units, one or more data and address busses, data

interfaces, volatile memory, or other components. The processing unit may use one of more types of nonvolatile memory 94 for software and data storage. Suitable types of nonvolatile memory include, for example, flash memory and hard disk drives. In some embodiments, the main speech processing unit 98 may be integrated with the one or more processing units 84. According to one embodiment of the invention, processing may be performed at the fixed computers 44. The commands may be processed on-board to enable the fixed computers 44 to control themselves and/or to control other fixed computers 44, mobile devices 36, mobile telephones, or other devices. Additionally, fixed computers 44 may track context as described above.

[083] According to another embodiment of the invention, fixed computers 44 may be configured to allow verbal annotations of objects stored thereon. Fixed computers 44 may transcribe the verbal annotation to text and store the textual annotation with the object. Alternatively, fixed computers 44 may be configured to enable users to manually input textual descriptions that are stored along with the objects. According to one embodiment of the invention, the textual annotations and/or textual descriptions may be classified and searched. In an alternative embodiment, fixed computers 44 may classify and search the verbal annotations rather than textual annotations. However, classifying and searching verbal annotations may be considerably more difficult than classifying and searching textual annotations and/or textual descriptions.

[084] In another embodiment of the invention, users may interact with fixed computers 44 using speech unit 128, the keyboard 88 or keypad, a display 86 for displaying text, graphics, video, or other peripherals. According to some embodiments of the invention, the display may be a touch screen type. Alternatively, a pointing device (not shown) may be used, along with other devices. Fixed computers 44 may be coupled to one or more wired or wireless wide-area or local-area networks through one or more interfaces. A wide-area transceiver 92 may connect to the wide-area wireless network 38 or the data network 42, using a wireless or wired connection, including an IP network, a dial-up PSTN network connection, or other connections. The local-area network transceiver 90 may connect to wired or wireless local area networks. These networks may include connections to mobile devices 36.

[085] In order for devices to properly respond to requests and/or commands that are submitted in a natural language form, machine processable requests and/or algorithms may be formulated after the natural form questions or commands have been parsed and interpreted. Algorithms describe how the machines should gather data to respond to the questions or commands. Depending on the nature of the requests or commands, there may not be a simple set of requests and/or algorithms that will return an adequate response. Several requests and algorithms may need to be initiated and even these requests and algorithms may need to be chained or concatenated to achieve a complete response. Further, no single available source may contain the entire set of results needed to generate a complete response. Thus, multiple requests and/or algorithms, perhaps with several parts, may be generated to access multiple data sources that are located both locally or remotely. Not all of the data sources, requests and/or algorithms may return useful results or any results at all. Useful results that are returned are often embedded in other information and may need to be extracted from the other information. For example, a few key words or numbers may need to be "scraped" from a larger amount of other information in a text string, table, list, page, video stream or other information. At the same time, extraneous information including graphics or pictures may be removed to process the response. In any case, the multiple results must be evaluated and combined to form the best possible response, even in cases where some requests do not return useful results or fail to produce results entirely. In cases where the command is determined to be ambiguous or the result is inherently subjective, determining the results to present in the response is a complex process. Finally, to maintain a natural interaction, responses should be returned to the user rapidly. Managing and evaluating complex and uncertain requests, while maintaining real-time performance, is a significant challenge.

[086] The invention provides a complete speech-based command generation, information query, retrieval, processing and presentation environment or a combination of speech-based and non-speech-based command generation, information query, retrieval, processing and presentation environment for telematic applications. In addition, the invention may be useful for controlling the system itself and/or external devices. This integrated environment makes maximum use of context, prior information and domain and user specific profile data to achieve

a natural environment for one or more users submitting requests or commands in multiple domains. Through this integrated approach, a complete speech-based natural language command, algorithm and response environment or a combination of speech-based and non-speech-based command, algorithm and response environment may be created.

[087] The telematic natural language interface may be deployed as part of, or a peripheral to a TCU or other mobile devices 36, as part of a mobile device interfaced to vehicle computers and other mobile system through wired, wireless, optical, or other types of connections or fixed computers interfaced to the vehicle computers or other systems through a combination of wired, wireless, optical and/or other types of connections. Alternatively, the components of the interactive natural language telematic interface may be distributed in any suitable manner between these multiple computing platforms.

[088] Figure 5 illustrates one exemplary schematic diagram view of a system 90 according to an embodiment of the invention. The system 90 may include a main unit 98, speech units 128, and multi-modal devices 155. In an alternative embodiment, the system 98 may include completely separate systems for main unit 98, speech units 128 and multi-modal devices 155. The event manager 100 may mediate interactions between components of main unit 98. The event manager 100 provides a multi-threaded environment allowing the system 98 to operate on multiple commands or questions from multiple user sessions, without conflict, and in an efficient manner to maintain real-time response capabilities.

[089] FIG. 8 illustrates one exemplary embodiment of an enhanced conversational user interface 800 that receives multi-modal input from users 802 and communicates with a conversational speech analyzer 804. The conversational speech analyzer 804 may be coupled to several components, including a general cognitive model 806, an environmental model 808, a personalized cognitive model 810, and an adaptive misrecognition analysis engine 812 or other components. According to one embodiment of the invention, the conversational speech analyzer 804 may include one or more speech recognition engines that transcribe utterances to textual messages. The transcription may be performed using one or more conversational grammars, a context description grammar 112, or other transcription methods. According to one embodiment of the invention, data that is entered in a text format may be merged with

data that is transcribed to a textual format from the utterance. Conversational speech analyzer 804 also may include a semantic knowledge-based model that analyzes the textual message and detects command components.

[090] According to one embodiment of the invention, personalized cognitive model 810 is a model derived from a user's interaction pattern with the system and may be used to predict what actions the user may take next in time, thus assisting with speech recognition and/or question or command recognition. Personalized cognitive model 810 may track actions performed by the user. When the system is attempting to predict user behavior, the personalized cognitive model may be consulted first. The system may have multiple personalized cognitive models, wherein one may correspond to each user.

[091] According to another embodiment of the invention, general cognitive model 806 is a statistical abstract that corresponds to interaction patterns with the system for multiple users. Data stored within general cognitive model 806 may be used to predict a user's next action, thus assisting with speech recognition and/or question or command recognition. The general cognitive model 806 may also track what actions a particular user has performed and may be used when the user interacts with the system in a way that is not handled in the personalized cognitive model.

[092] According to one embodiment of the invention, the environmental model 808 may include information associated with the user's environment and surroundings. The information may include the type of environment that a user is in (e.g., quiet or noisy); details of a microphone and/or speaker system; the user's current global position and movement, as may be determined by GPS; current system status, such as what song/movie is playing, is the system in the midst of retrieving something, or other system status; details on all voice-enabled devices in the immediate vicinity, such as a presence of a voice-enabled TV, stereo, and DVD player in the same room; a user's credit card information, such as numbers and current balances, wherein the user may ask a mobile telephone to download and pay for a video and the system may respond that there are insufficient funds; or other information. The information may be accessed to invoke a context, domain knowledge, preferences, and/or other cognitive qualities that enhance the interpretation of questions and/or commands.

[093] The conversational speech analyzer 804 may also access the general cognitive model 806 and/or the personalized cognitive model 810 to further refine a context, domain knowledge, preferences, and/or other cognitive qualities to enhance the interpretation of questions and/or commands. Based on information received from general cognitive model 806, environmental model 808 and/or the personalized cognitive model 810, the system may enhance responses to commands and questions by including a prediction of user behavior.

[094] Adaptive Misrecognition Analysis Engine 812 may analyze and store textual messages, including transcribed utterances, that are identified as being unrecognized or incorrectly recognized by conversational speech analyzer 804. Upon a determination that text is unrecognized, the system may generate an unrecognized event. For example, an unrecognized event may result from not finding a match to text and/or the transcribed utterance.

[095] According to one embodiment of the invention, the system may implement one or more techniques to determine that textual messages are incorrectly recognized. For example, the user may command the system to play a specific song title and the system may misrecognize the requested song title and provide a song having a different title, the system may misrecognize an incorrect song title and provide a song having a different than requested title, the system may misrecognize a correct song title and provide a song having an invalid song title, among other variations. When the system misrecognizes a request, the user typically provides immediate feedback such as, overriding the command in a time shorter than the expected execution time of the command, repeating the original request, issuing a stop command, or taking other action, wherein the action may be presented verbally, non-verbally by pushing a selected button on a cell phone or remote control, or both, among other configurations. According to one embodiment of the invention, the system may detect the user action and may prompt the user to re-phrase the request to enable the system to modify words in the query. The user's actions may be analyzed in a statistical model to determine a frequency occurrence of misrecognitions for particular commands, with the results being used to update the corresponding personalized cognitive model 810.

[096] According to another embodiment of the invention, the conversational speech analyzer 804 may access the personalized cognitive model 810 to proactively select a next best (or nth

best) match for the received text. A match may be confirmed by user action that include the user not immediately canceling the command or taking other action. The misrecognitions may also be analyzed to potentially determine personalized tuning parameters for the speech recognition components of the system. For example, the system may, over time, tune the speech recognition engine to increase recognition by analyzing how the speech recognition engine misrecognizes the utterance.

[097] The event manager 100 may mediate interactions between other components of the invention. The event manager can provide a multi-threaded environment allowing the system to operate on multiple commands or questions from multiple user sessions without conflict and in an efficient manner, maintaining real-time response capabilities.

[098] Agents 106 may include a collection of grammars, criteria handlers, and algorithms that are accessible to respond to a set of requests and/or commands. Agents 106 may further contain packages of both generic and domain specific behavior for the system 98. Agents 106 may use nonvolatile storage for data, parameters, history information, and locally stored content provided in the system databases 102 or other local sources. One or more user profiles 110 may be provided that include user specific data, parameters, and session and history information for determining the behavior of agents 106. One or more personality modules 108 may be provided in a data determining system that include personality characteristics for agents. The update manager 104 manages the automatic and manual loading and updating of agents 106 and their associated data from the Internet 146 or other network through the network interface 116.

[099] According to one embodiment of the invention, the speech-based interface for the system 90 may include one or more speech units 128. Speech units 128 may include one or more microphones, for example array microphone 134, to receive the utterances from the user. The speech received at the microphone 134 may be processed by filter 132 and passed to the speech coder 138 for encoding and compression. In one embodiment, a transceiver module 130 may transmit the coded speech to the main unit 98. Coded speech received from the main unit 98 is detected by the transceiver 130, then decoded and decompressed by the speech coder 138 and annunciated by the speaker 136.

[0100] According to one embodiment of the invention, the non-speech-based interface for the system 90 may include one or more multi-modal devices 155 that may include mobile devices, stand alone or networked computers, personal digital assistances (PDAs), portable computer devices, or other multi-modal devices.

[0101] The speech units 128, multi-modal devices 155 and the main unit 98 may communicate over a communication link. The communication link may include a wired or wireless link. According to one embodiment, the communication link may comprise an RF link. The transceiver 130 on the speech unit may communicate coded speech data bi-directionally over the communication link with the transceiver 126 on the main unit 98. According to another embodiment, the RF link may use any standard local area wireless data protocols including the IEEE 802.11, Bluetooth or other standards. Alternatively, an infrared data link conforming to any suitable standard such as IrDA or other infrared standards can be used. In an alternative embodiment, wires may connect the speech unit 128 and the main unit 98, eliminating the need for one speech coder 138. Other wired or wireless analog or digital transmission techniques can be used.

[0102] According to one embodiment of the invention, coded speech received at the transceiver 126 on the main unit 98 is passed to the speech coder 122 for decoding and decompression. The decoded speech may be processed by the speech recognition engine 120 using the context description grammar module 112, among other information. Any recognized information may be processed by the parser 118, which transforms information into complete algorithms and questions using data supplied by knowledge agents. Knowledge agents may be selected from the plurality of agents 106 using a grammar stack, wherein the knowledge agents provide information for generating a response to the question or command. The knowledge agents may then process the commands or questions by creating requests that are submitted to local databases 102 or submitted through the network interface 116 to external data sources over the Internet 146 or external other networks. Algorithms typically result in actions taken by the system 90 itself (i.e., pause or stop), or to a remote device or data source (i.e., download data or program, or control a remote device), through the network interface to the Internet or other data interface.

[0103] According to one embodiment of the invention, knowledge agents may return results of questions as responses to users. The responses may be created using the results of information requests, the system personality 108, the user preferences, other data in the user profile 110, and/or other information. Agents 106 may present these results using the speech unit 128. The agents 106 may create a response string, which is sent to the text to speech engine 124. The text to speech engine 124 may generate the utterances, which may be encoded and compressed by the speech coder 122. Once coded, the utterances are transmitted from the main unit 98 by the transceiver 126 to the transceiver 130 on the speech unit 128. The utterance is then decoded and decompressed by the speech coder 138 and output by the speaker 136. Alternatively, agents 106 may present the results using multi-modal devices 155.

[0104] The non-speech interface 114 may be part of, or separate from, the multi-modal devices 155 and may be used as a substitute or complement to the speech interface. For example, non-speech interface 114 may be used to present and interact with non-speech (e.g., graphical or tabular) information in a manner more easily understood by the user. According to one embodiment of the invention, multimodal support may be provided to maintain the context during both voice interaction and interaction through the non-speech interface 114. In one exemplary embodiment, a communication channel may be opened between multimodal devices 155 and the main user interface system 90 to allow multimodal devices 155 to input text commands and questions. According to another embodiment of the invention, multimodal devices 155 may send a string of text or keywords for a command or question. The main interface system 90 may synchronize the context between multimodal device 155 and the speech units 128. In order to send a response to the corresponding device, the main user interface system 90 may track where the input came from so that the response may be sent to a TTS or multi-modal device 155.

[0105] According to one embodiment of the invention, non-speech interface 114 may show system, state and history information in a more concise manner than is possible through the speech interface. Non-speech interface 114 may be accessed to create or extend capabilities of agents 106. These operations may include scripting of agents, adding data to the agent or databases 102 used by the agent, adding links to information sources, among other operations.

[0106] According to another embodiment of the invention, system 90 may include different types of agents 106. In some embodiments of the invention, generic and domain specific behavior and information may be organized into domain agents 156. The system agent, on the other hand, may provide default functionality and basic services. The domain specific agents may provide complete, convenient and re-distributable packages or modules for each application area. In other words, the domain agents may include data that is needed to extend or modify the functionality of the system 90 in a current or new domain. Further, domain agents and their associated data can be updated remotely over a network as new behavior is added or new information becomes available. Domain agents may access a plurality of sources that may provide various services. Domain agents may use the services of other, typically more specialized, data managers and system agent. Agents are distributed and redistributed in a number of ways including on removable storage media, transfer over networks or attached to emails and other messages. The invention may provide license management capability allowing the sale of data managers by third parties to one or more users on a one time or subscription basis. In addition, users with particular expertise can create data managers, update existing data managers by adding new behaviors and information and making these data managers available to other users. A block diagram of the agent architecture according to an embodiment of the invention is shown in Figure 6.

[0107] Agents 106 may receive and return events to the event manager 100. Both system agents 150 and domain agents 156 may receive questions and commands from the parser 118. Based on keywords in the questions and commands and the structures of the questions and commands, the parser may invoke selected agents. Agents use the nonvolatile storage for data, parameters, history information and local content provided in the system databases 102.

[0108] According to one embodiment of the invention, when the system starts-up or boots-up, the agent manager 154 may load and initialize the system agent 150 and the one or more domain agents 156. Agent manager 154 includes knowledge of agents 106 and maps agents 106 to the agent library 158. At shutdown, the agent manager may unload the agents 106. The agent manager 154 also performs license management functions for the domain agents 156 and content in the databases 102.

[0109] The system agent 150 manages the criteria handlers 152 that handle specific parameters or values (criteria) used to determine context for questions and commands. According to one embodiment of the invention, criteria handlers 152 include parsing routines that are specialized to recognize particular parts of speech, such as times, locations, movie titles, and other parts of speech. The criteria handlers 152 may identify matching phrases and extract semantic attributes from the phrases. Both the system agent 150 and the domain agents 156 may use the criteria handlers 152. The various domain agents 156 may use the services of the system agent 150 and of other, typically more specialized, domain agents 156. The system agent 150 and the domain agents 156 may use the services of the agent library 158, which contains utilities for commonly used functions. According to one embodiment of the invention, the agent library may be a dynamic link library that implements one or more agents. The agent library may include utilities for text and string handling, network communications, database lookup and management, fuzzy and probabilistic evaluation, text to speech formats, and other utilities.

[0110] Domain agents 156 may be data-driven, scripted or created with compiled code. A base of generic agent may be used as the starting point for data-driven or scripted agents. Agents created with compiled code are typically built into dynamically linkable or loadable libraries. Developers of agents can add new functionality to the agent library 158 as required. Details of agent distribution and update, and agent creation or modification are discussed in sections below.

[0111] According to another embodiment of the invention, capabilities are provided to distribute and update system agents 150, domain agents 156, agent library 158 components, databases 102, and context description grammar 112 over wireless or wired networks 136, including IP networks and dial-up networks using the update manager 104. The network interface 116 may provide connections to one or more networks. The update manager 104 may also manage the downloading and installation of core system updates. The agent manager 154 may perform license management functions for the domain agents and the databases. The update manager 104 and agent manager 154 may perform these functions for all agents and database content including, agents and content available to all users or agents and/or content

available to selected users. Examples of agent and database components added or updated on a periodic basis include:

- agents for new domains;
- additional domain knowledge for agents;
- new keywords for a domain, which can include names of politicians, athletes, entertainers, names of new movies or songs, etc. who have achieved recent prominence;
- links to a preferred set of information sources for the domains covered including links for, entertainment, news, sports, weather, etc.;
- updates to domain information based on, for example, changes to tax laws, company mergers, changing political boundaries;
- updates to content, including dictionaries, encyclopedias and almanacs; and
- other content and database components.

[0112] When a user requires or selects a new domain agent 156 or database element 102, the update manager 104 may connect to their source on the network 146 though the network interface 116, download and install the agent or data. To save system resources and to comply with any license conditions, the update manger 104 may uninstall agents that are no longer in use. In one embodiment of the invention, the update manager 104 may periodically query one or more sources of the licensed agents and database components to locate and download updates to agent executables, scripts or data as they become available. Alternatively, the agent sources may initiate the downloading of agent updates of the registered or licensed agents to the update manager as they become available.

[0113] The agent manager 154 may provide license management clients that are capable of executing most any license terms and conditions. When a particular agent 106 and/or database element 102 is selected based on a submitted command, the agent manager 154 verifies that the use of the agent or data element is within the allowed terms and conditions, and if so, invokes the agent or allows access to the data element. License management schemes that can be implemented through the agent manager 154 include outright purchase, subscription for updates, one time or limited time use. Use of shared agents and data elements (such as those

down-loaded from web sites maintained by groups of domain experts) may also be managed by the agent manager 154.

[0114] If questions or commands do not match an agent that is currently loaded on the system, the agent manager 154 may search the network 146 through the network interface 116 to find a source for a suitable agent. This process may be triggered, for example, when a query is made in a domain for which an agent is not available, when a new device is added to a mobile structure, or when the behavior of a mobile device is updated. Once located, the agent can be loaded under the control of the update manager 104, within the terms and conditions of the license agreement, as enforced by the agent manager.

[0115] New commands, keywords, information, or information sources can be added to any domain agent 156 by changing agent data or scripting. These configuration capabilities may allow users and content developers to extend and modify the behavior of existing domain agents 156 or to create new domain agents 156 from a generic agent without the need to create new compiled code. Thus, the modification of the domain agents 156 may range from minor data-driven updates by even the most casual users, such as specifying the spelling of words, to development of complex behavior using the scripting language as would typically be done by a domain expert. The user can create and manage modifications to domain agents 156 through speech interface commands or using non-speech interface 114. User-specific modifications of domain agents 156 are stored in conjunction with the user's profile 110 and accessed by the domain agent 156 at run-time.

[0116] The data used to configure data driven agents 156 may be structured in a manner to facilitate efficient evaluation and to help developers with organization. This data is used not only by the agent, but also in the speech recognition engine 120, the text to speech engine 124, and the parser 118. Examples of some major categories of data include:

1. Content packages may include questions or commands. Each command or question or group of commands or questions may include contexts used for creation of one or more requests. The domain agent 156 may pass a context description grammar expression to the parser 118 for evaluation of a context or question. An initial or default

context is typically supplied for each command or question. The command or question includes a grammar for the management and evaluation of the context stack.

2. Parameters and other operating data on devices that are under control of the natural language speech interface. The domain agent 156 may use this data and parameters to determine how to execute a command, how to formulate the command string for the parser 118, determine if the command is feasible, and determine if the command can be executed within safety and operating limits.

3. Page lists or pointers to other local or network content sources. For each page or content source, there may be a pointer (e.g. URL, URI, or other pointer) to the page or source. Each page may have specific scraping information used to extract the data of interest. The scraping information may include, for example, matching patterns, HTML or other format parsing information.

4. A response list, determining the response of the domain agent 156 to a particular command or question given the context, the user profile and the information retrieved. Responses may include diagnostic error messages or requests for more information if the question or command cannot yet be resolved from the known information. Responses can be based on or be dependent on thresholds or probabilistic or fuzzy weights for the variables.

5. Substitution lists that include variable substitutions and transformations, often applied by the agents 150, 156 in the formatting of requests and results. For example, a stock domain specific agent 156 would use a substitution list of company trading symbols, company names and commonly used abbreviations. Substitutions and transformations can be performed on commands and questions to create precise queries, which can be applied against one or more information sources or to results for creating more meaningful output to the user. Substitution lists also include information for optimally dealing with structured information, such as HTML formatted page parsing and evaluation.

6. Personalities used for responses. Personalities can be constructed by combining multiple traits in a weighted manner. Weights can be specified for each agent's domain

area to create one or more specific personalities. Examples of personality traits include, sarcasm, humor, irritation, and sympathy, and other traits.

7. Public and user specific parameters for sources, substitutions, transformations, variables or criteria. The public parameter lists are part of the agent package 156. The user specific parameters are included in the user profile 110.

[0117] Commands and questions are interpreted, requests formulated, responses created and results presented can be based on the user's personal or user profile 110 values. Personal profiles may include information specific to the individual, their interests, their special use of terminology, the history of their interactions with the system, domains of interest, or other factors. The personal profile data can be used by the agents 106, the speech recognition engine 120, the text to speech engine 124, and the parser 118. Preferences can include, special (modified) commands, past behavior or history, questions, information sources, formats, reports, alerts or other preferences. User profile data can be manually entered by the user and/or can be learned by the system based on user behavior. User profile values can include: 1) spelling preferences; 2) date of birth for user, family and friends; 3) income level; 4) gender; 5) occupation; 6)location information such as, home address, neighborhood, and business address, paths traveled, locations visited; 7) vehicle type or types; 8) vehicle operator certifications, permits or special certificates; 9) history of commands and queries; 10) telecommunications and other service providers and services; 11) financial and investment information; 12) synonyms (i.e., a nick name for someone, different terms for the same item); 13) special spelling; 14) keywords; 15) transformation or substitution variables; 16) domains of interest; or, 17) other values.

[0118] End users may use the data driven agent 156 extension and modification facilities and values stored in user profiles 110 to create special reports, packages of queries, alerts and output formats. A single alert or report can be configured to use multiple data sources and other variables (i.e., time, location, measured value) value to determine when alerts should be sent. For example, an alert can be generated by sampling a stock price every 15 minutes and sending an alert if the price drops below some value. In another example, an alert may be

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generated when a particular condition or combination of conditions occur for the vehicles. Alerts and reports can be directed to a local or remote output.

[0119] To create a report, the user may first specify a set of commands or questions. Next, the user can create or select a format for the report. Finally the user may name the report. A report can have variable parameters. For example, a user may create a company stock report and execute the report by stating its name and the company name, which gives the user selected information in a specified format for that company. In another example, a user can create a "morning" report, which presents selected multimedia information from different sources (news, sports, traffic, weather) in the order and formats desired. In yet another example, the user can create a report on the status of one or more vehicle systems. Alerts and reports can be created using only voice commands and responses, commands and responses through the graphical user interface 114, or a combination of the two. Reports can be run locally or remotely with respect to the vehicle. To create a report, alert, or other specialized behavior, the user performs a number of steps including: 1) specifying the command to run a report or alert; 2) specifying the question or questions, including keywords, used for a query; 3) setting the criteria for running the report such as on command or when a particular condition is met; 4) defining preferred information sources; 5)defining preferences for order of result evaluation by source, value, and other parameters; 6) specifying the presentation medium for a report or alert, such as an email, the text to speech engine, a message to a pager, or a text and graphics display; and, 7) specifying the preferred format for the report, such as information to be presented, order of information to be presented, preferred abbreviations or other variable substitutions.

[0120] Filtering and noise elimination may be important in facilitating the various functionalities of system 90 and may improve operation in noisy mobile environments. Recognition and parsing of the user's speech is implemented with good signal to noise ratio at the input to the speech recognition engine 120. To provide acceptable results, a set of acoustic models, an array microphone 134, a filter 132, or other components, may be employed. If a good signal to noise ratio cannot be achieved, a noise identification algorithm may be used and the appropriate acoustic model, for example, one that has been trained in conditions similar to

the identified noise, may be selected. According to one embodiment of the invention, the microphone array, filters and speech coder 138 are physically separated from the main unit 98 into a speech unit 128, and connected using a wireless link. Since bandwidth on a wireless connection is at a premium, the speech coder dynamically adapts the digitization rate and compression of the captured speech.

[0121] Some embodiments of the invention may use one or more arrays of microphones 134 to provide better directional signal capture and noise elimination than can be achieved with a single microphone. The microphone array can be one-dimensional (a linear array) or two-dimensional (a circle, square, triangle or other suitable shape). The beam pattern of the array can be fixed or made adaptive though use of analog or digital phase shifting circuitry. The pattern of the active array is steered to point in the direction of the one or more users speaking. At the same time, nulls can be added to the pattern to notch out point or limited area noise sources. The use of the array microphone also helps reduce the cross talk between output from the text to speech engine 124 through the speaker 136 or from another user talking and detection of the user's speech.

[0122] The invention may use an analog or digital filter 132 between the array microphone or conventional microphone 134 and the speech coder 138. The pass band of the filter can be set to optimize the signal to noise ratio at the input to the speech recognition engine 120. In some embodiments, the filter is adaptive, using band shaping combined with notch filtering to reject narrow-band noise. One embodiment employs adaptive echo cancellation in the filter. The echo cancellation helps prevent cross talk between output from the text to speech engine and detection of the user's speech as well as suppression of environmentally caused echoes. Algorithms comparing the background noise to the signal received from the users speech may be used to optimize the band-shaping parameters of the adaptive filter.

[0123] The speech received by the array microphone 134 and passed through the filter 132 may be sent to the speech digitizer or coder 138. The speech coder may use adaptive lossy audio compression to optimize bandwidth requirements for the transmission of the coded speech to the speech recognition engine 120 over a wireless link. The lossy coding is optimized to preserve only the components of the speech signal required for optimal recognition.

Further, the lossy compression algorithms that may be used are designed to prevent even momentary gaps in the signal stream, which can cause errors in the speech recognition engine. The digitized speech may be buffered in the coder and the coder may adapt the output data rate to optimize the use of the available bandwidth. The use of the adaptive speech coder is particularly advantageous when a band-limited wireless link is used between the coder and the speech recognition engine.

[0124] The microphone can be complemented with an analog or digital (i.e., Voice over IP) speech interface. This interface allows a remote user to connect to the system and interact with it in the same manner possible if they were physically present.

[0125] In an alternative embodiment, the array microphone can be replaced by a set of physically distributed microphones or headsets worn by the users. The distributed microphones can be placed in different parts of a vehicle, different parts of a room or in different rooms of a building. The distributed microphones can create a three-dimensional array to improve signal to noise ratio. The headset can use a wireless or wired connection.

[0126] While the invention is intended to be able to accept most any natural language question or command, ambiguity may be a problem. To assist users formulate concise questions and commands, the system can support a voice query language. The language may be structured to allow a variety of queries and commands with minimal ambiguity. Thus, the voice query language helps users clearly specify the keywords or contexts of the question or command along with the parameters or criteria. The language can provide a grammar to clearly specify the keyword used to determine the context and present a set of one or criteria or parameters. A user asking a question or stating a command in the voice query language may nearly always be guaranteed to receive a response.

[0127] The voice query language may be sensitive to the contents of the context stack, wherein a context defines a set of questions that can be activated or deactivated during a conversation. According to one embodiment, each agent may designate one context to be the root context that defines base algorithms that the agent implements. Thus, follow-on questions can be asked using an abbreviated grammar, since key words and criteria can be inherited from the

context stack. For example, the user can simply ask about another keyword if the criteria of the question remain constant.

[0128] The system 90, may provide built in training capabilities to help users learn the best methods to formulate their questions and commands. The interactive training allows users to audibly or visibly see the machine interpretation of their queries and provides suggestions on how to better structure a query. Using the interactive training, users can quickly become comfortable with the voice query language and, at the same time, learn how to optimize the amount of information required with each step of a dialog.

[0129] The output of the speech coder 122 may be fed to the speech recognition engine 120. The speech recognition engine 120 recognizes words and phrases, using information in the context description grammar 112 and passes these to the parser 118 for interpretation. The speech recognition engine 120 may determine the user's identity by voice and name for each utterance. Recognized words and phrases may be tagged with this identity in all further processing. Thus, as multiple users engage in overlapping sessions, the tags added by the speech recognition engine 120 to each utterance allows other components of the system 90 to tie that utterance to the correct user and dialog. The user recognition capability may further be used as a security measure for applications, such as auctions or online shopping, where this is required. Voice characteristics of each user may be contained in the user profile 110.

[0130] According to one embodiment of the invention, users may start a dialog with the system 90 when they first address it. This can be done by speaking a generic word ("computer") or addressing a specific name ("Fred"), which may be generally tied to a system personality 108. Once the user starts the dialog, it may be recognized by the speech recognition engine 120, using unique characteristics of the user's speech. At the end of a dialog or to interrupt a dialog, the user may utter a dismissal word ("good bye").

[0131] According to another embodiment of the invention, the system 90 may employ a speech recognition engine 124 that gains improved word recognition accuracy using data from context description grammar 112, user profiles 110, and the agents 106, among other components. At the same time, the fuzzy set possibilities or prior probabilities for the words in the context description grammar may be dynamically updated to maximize the probability of correct

recognition at each stage of the dialog. The probabilities or possibilities may be dynamically updated based on a number of criteria including the application domain, the questions or commands, contexts, the user profile and preferences, user dialog history, the recognizer dictionary and phrase tables, and word spellings, among other criteria.

[0132] For uncommon words or new vocabulary words, the user may be given the option to spell the words. The spelling can be done by saying the names or the letters or using a phonetic alphabet. The phonetic alphabet can be a default one or one of the user's choosing.

[0133] Alternatively, when a user submits a word that is not recognized at all or is not correctly recognized by the speech recognition engine 120, then the user may be asked to spell the word. The speech recognition engine 120 determines this condition based on confidence level for the scoring process. The word may be looked up in a dictionary and the pronunciation for the word is added to either the dictionary, the agent 106, or the user's profile 110. The word pronunciation can then be associated with the domain, the question, the context and the user. Through this process, the speech recognition engine learns with time and improves in accuracy. To assist users in spelling words, an individualized phonetic alphabet can be used. Each user can modify the standard phonetic alphabets with words, which they can remember more easily.

[0134] Once the words and phrases have been recognized by the speech recognition engine 120, the tokens and user identification may be passed to the parser 118. The parser examines the tokens for the questions or commands, context and criteria. The parser may determine a context for an utterance by applying prior probabilities or fuzzy possibilities to keyword matching, user profile 110, dialog history, and context stack contents. The context of a question or command may determine the domain and, thereby, the domain agent 156, if any, to be invoked. For example, a question with the keywords "temperature" implies a context value of weather for the question. Within a different dialog, the keyword "temperature" can imply a context for a measurement. The parser dynamically receives keyword and associated prior probability or fuzzy possibility updates from the system agent 150 or an already active domain agent 156. Based on these probabilities or possibilities the possible contexts are scored and the top one or few are used for further processing.

[0135] The parser 118 uses a scoring system to determine the most likely context or domain for a user's question and/or command. The score is determined from weighing a number of factors including, the user profile 110, the domain agent's data content and previous context. Based on this scoring, the system 90 invokes the correct agent. If the confidence level of the score is not high enough to ensure a reliable response, the system 90 may ask the user to verify whether the question and/or command is correctly understood.

[0136] In general, the question that is asked by the system 90 may be phrased to indicate the context of the question including all criteria or parameters. For example, the question can be in the form of: "Did I understand that you want such-and-such" If the user confirms that the question is correct the system proceeds to produce a response. Otherwise, the 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.

[0137] Once the context for the question or command has been determined, the parser 118 can invoke the correct agent 156, 150. To formulate a question or command in the regular grammar used by agents, the parser will preferably determine required and optional values for the criteria or parameters. These criteria may have been explicitly supplied by the user or may need to be inferred. The parser may make use of the criteria handlers 152 supplied by the system agent. The criteria handlers can provide context sensitive procedures for extracting the criteria or parameters from the user's question or command. Some criteria may be determined by executing algorithms in the agent, while others may be determined by applying probabilistic or fuzzy reasoning to tables of possible values. Prior probabilities or fuzzy possibilities and associated values may be received from a number of sources including, for example, the history of the dialog, the user profile 110, and the agent. Based on user responses, the prior probabilities or fuzzy possibilities may be updated as the system learns the desired behavior. For a weather context, examples of criteria include, location, date and time. Other criteria can include command criteria (i.e., yes/no, on/off, pause, stop), and spelling. Special criteria handlers are available from the system agent for processing lists, tables, barge-in commands, long strings of text and system commands.

[0138] The criteria handlers 152 can operate iteratively or recursively on the criteria extracted to eliminate ambiguity. This processing may help reduce the ambiguity in the user's question or command. For example, if the user has a place name (or other proper noun) in their utterance the parser 118 can use services of the domain agent 156 to look up tables in the databases 102 for place names or can attempt to determine which word is the proper noun from the syntax of the utterance. In another example, the user asks, "what about flight one hundred and twenty too?" The parser and domain agent use flight information in the database and network information along with context to determine the most plausible interpretation among; flight 100 and flight 20 also, flight 100 and flight 22, flight 122, etc.

[0139] Once the context and the criteria are determined, the parser 118 may form the question or command in a standard format or hierarchical data structure used for processing by the agents 150, 156. The parser 118 may fill in all required and some optional tokens for the grammar of the context. Often the tokens must be transformed to values and forms acceptable to the agents. The parser obtains the required transformations from the agents, dialog history or user profile 110. Examples of transformations or substitutions performed by the parser on tokens include: 1) substituting a stock symbol for a company name or abbreviation; 2) substituting a numerical value for a word or words; 3) adding a zip code to an address; and, 4) changing a place or other name to a commonly used standard abbreviation.

[0140] The agents 150, 156 may receive a command or question once the parser 118 has placed it in the required standard format. Based on the context, the parser can evoke the correct agent to process the question or command.

[0141] Commands can be directed to the system or to an external entity. System commands are generally directed to the system agent 150. Commands for external entities are generally processed by a domain agent 156, which includes the command context and behavior for the external entity.

[0142] Specific questions may be generally directed to one of the domain agents 156. The real-time selection of the correct agent allows the invention to dynamically switch contexts. Based on the question, command or context and the parameters or criteria, the domain agent may create one or more queries to one or more local or external information sources. Questions

can be objective or subjective in nature. Results for objective questions can often be obtained by structured queries to one or more local or network information sources. Even for objective questions, the system may need to apply probabilistic or fuzzy set analysis to deal with cases of conflicting information or incomplete information. Information to answer subjective questions is generally obtained by one or more ad-hoc queries to local or network data sources, followed by probabilistic or fuzzy set evaluation of the one results to determine a best answer.

[0143] Once the domain agent 156 has formulated the one or more queries, they may be sent to local and/or network information sources. The queries may be performed in an asynchronous manner to account for the fact that sources respond at different speeds or may fail to respond at all. Duplicate queries can be sent to different information sources to ensure that at least one source responds with a useful result in a timely manner. Further, if multiple results are received in a timely manner, they can be scored by the system to determine which data is most reliable or appropriate. Examples of data sources accommodated include, HTTP data sources, sources with meta-data in various formats including XML, measurement data from sensors using various formats, device 32 setting parameters, entertainment audio, video and game files including MP3, databases using query languages and structured responses such as SQL, and other data sources.

[0144] The local information sources can be stored in one or more system databases 102 or can be on any local data storage such as a set of CDs or DVDs in a player or other local data storage. In other cases, local information can be obtained from vehicle system settings or measurement devices. Network information sources can be connected to, the control and device interfaces 30, the data interfaces 26, the Internet 42 or other network and accessed through a series of plug-ins or adaptors, known a pluggable sources, in the network interface 116. The pluggable sources are capable of executing the protocols and interpreting the data formats for the data sources of interest. The pluggable source provides information scrapping forms and procedures for each source to the domain agents 156. If a new type of data source is to be used a new plug-in or adaptor can be added to the appropriate interface.

[0145] The domain agent 156 can evaluate the results of the one or more queries as they arrive. The domain agent may score the relevance of the results based on results already

received, the context, the criteria, the history of the dialog, the user profile 110 and domain specific information using probabilistic or fuzzy scoring techniques. Part of the dialog history is maintained in a context stack. The weight of each context for the scoring may be based on the relevance of one context to another and the age of the contexts. Other scoring variables can be associated through the context stack. Contexts can also be exclusive, so that previous contexts have no weight in the scoring.

[0146] Based on the on-going scoring processes, the domain agent 156 may determine if a single best answer can be extracted. For most questions, the desired result may include a set of tokens that may be found to formulate an answer. Once a value has been found for each of these tokens, the results are ready for presentation to the user. For example, for a question on weather, the tokens can include the date, day of week, predicted high temperature, predicted low temperature, chance of precipitation, expected cloud cover, expected type of precipitation and other tokens. Results processed in this manner may include error messages. For subjective questions, this determination is made by determining a most likely answer or answers, extracted by matching of the results received. If no satisfactory answer can be inferred from the results of the query, the agent can do one of the following:

1. Ask the user for more information, typically through the speech interface, and based on the results obtained formulate new queries. This approach is applied when an irresolvable ambiguity arises in the formulation of a response.
2. Formulate new queries based on the results received from the first set of queries. This approach is typically applied in cases where the responses received do not include all the required information. Information sources to queries can be inferred from the results already obtained (i.e., links in an HTML document or measurements or settings from other devices 32) or from other sources. Using this approach one or more sets of queries and responses can be chained without the need for action by the user.
3. Wait for additional queries to return results.

[0147] In any case, the domain agent 156 may continue to make queries and evaluate results until a satisfactory response is constructed. In doing so, the agent can start several overlapping query paths or threads of inquiry, typically mediated by the event manager 100. This

technique, combined with the use of asynchronous queries from multiple data sources provides the real-time response performance required for a natural interaction with the user.

[0148] The domain agent 156 may apply conditional scraping operations to each query response as it is received. The conditional scraping actions may depend on the context, the criteria, user profile 110, and domain agent coding and data. For each token to be extracted a scraping criteria 152 can be created using the services of the system agent 150. The scraping criteria may use format specific scraping methods including, tables, lists, text, and other methods. One or more scraping criteria can be applied to a page or results set. Once additional results are received, the domain agent can create new scraping criteria to apply to results already acquired. The conditional scarping process removes extraneous information, such as graphics, which need not be further processed or stored, improving system performance.

[0149] Specific commands are generally directed to one of the domain agents 156. The real-time selection of the correct agent allows the invention to dynamically switch contexts. Command oriented domain agents 156 evaluate the command and the state of vehicle systems, system capabilities, and measurements to determine if the command can be executed at all or if doing so will exceed operating or safety limits. If the command is ambiguous or cannot be executed for some other reason, the system may ask the user for more information or may suggest what the problem is and a likely approach to the solution. The domain agent may format the command for the specific device 32 and control and device interface 30. This formatting may involve variable substitution, inference of missing values and other formatting. Variable substitution and inference depends on the command context, the user profile 110, command history, state of vehicle systems and measured values, and other factors. A complex command can result in more atomic commands being sent to multiple devices, perhaps in a sequence. The sequence and nature of subsequent commands may depend on the previous commands, results of pervious commands, device settings and other measurements. As a command is executed, measurements are made and results collected to determine if the execution was correct and the desired state or states were reached.

[0150] Once the domain agent 156 has created a satisfactory response to a question, or to a command, the agent may format that response for presentation. Typically, the domain agent

can format the response into the markup format used by the text to speech engine 124. The domain agent may format the result presentation using available format templates and based on the context, the criteria, and the user profile 110. The domain agent may perform variable substitutions and transformations to produce a response best understood and most natural to the user. The domain agent may vary the order of presentation of tokens and the exact terminology used to create a more natural response to the user. The domain agent may also select the presentation personality 108 to be used.

[0151] For both command and query responses, the domain agent 156 may select the presentation template, determine order of presentation for tokens and determine variable substitutions and transformations using probabilistic or fuzzy set decision methods. The template used to form the presentation can be from the domain agent itself or from the user profile 110. The user profile can completely specify the presentation format or can be used to select and then modify an existing presentation format. Selection and formatting of presentation template can also depend on the presentation personality 108. At the same time, the characteristics of the personality used for the response are dynamically determined using probabilities or fuzzy possibilities derived from the context, the criteria, the domain agent itself and the user profile 110.

[0152] The domain agent 156 may apply a number of transformations to the tokens before presentation to the user. These variable substitutions and transformations may be derived from a number of sources including, domain information carried by the agent, the context, the token values, the criteria, the personality 108 to be used, and the user profile 110. Examples of variable substitutions and transformations include: 1) substitution of words for numbers; 2) substitution of names for acronyms or symbols (i.e., trading symbols); 3) use of formatting information derived from the information sources (i.e., HTML tags); 4) nature of the response including, text, long text, list, table; 5) possible missing information or errors; 6) units for measurement (i.e., English or metric); and, 7) preferred terminology from the user profile or presentation personality 108.

[0153] The invention may provide special purpose presentation capabilities for long text strings, tables, lists and other large results sets. Domain agents 156 may use special formatting

templates for such results. The system agent 150 can provide special criteria handlers 152 for presentation and user commands for large results sets. The presentation templates used by the domain agents for large results sets typically include methods for summarizing the results and then allowing the user to query the result in more detail. For example, initially only short summaries, such as headlines or key numbers, are presented. The user can then query the results set further. The criteria handlers provide users with the capability to browse large results sets. Commands provided by the criteria handlers for large results sets include, stop, pause, skip, rewind, start, and forward.

[0154] Some information, in formats such as video, pictures and graphics, may be best presented in a displayed format. The domain agents 156 apply suitable presentation templates in these cases and present the information through the non-speech interface 114. The system agent 150 provides special criteria handlers 152 for presentation and user commands for display presentation and control.

[0155] Although particular embodiments of the invention have been shown and described, it will be understood that it is not intended to limit the invention to the embodiments that are disclosed and it will be obvious to those skilled in the art that various changes and modifications may be made without departing from the spirit and scope of the invention. Thus, the invention is intended to cover alternatives, modifications, and equivalents, which may be included within the spirit and scope of the invention as defined by the claims.

CLAIMS

What is claimed is:

1. A mobile device for processing multi-modal natural language inputs, comprising:

a conversational voice user interface that receives a multi-modal natural language input from a user, the multi-modal natural language input including a natural language utterance and a non-speech input, the conversational voice user interface coupled to a transcription module that transcribes the non-speech input to create a non-speech-based transcription;

a conversational speech analysis engine that identifies the user that provided the multi-modal natural language input, the conversational speech analysis engine using a speech recognition engine and a semantic knowledge-based model to create a speech-based transcription of the natural language utterance, wherein the semantic knowledge-based model includes a personalized cognitive model derived from one or more prior interactions between the identified user and the mobile device, a general cognitive model derived from one or more prior interactions between a plurality of users and the mobile device, and an environmental model derived from an environment of the identified user and the mobile device;

a merging module that merges the speech-based transcription and the non-speech-based transcription to create a merged transcription;

a knowledge-enhanced speech recognition engine that identifies one or more entries in a context stack matching information contained in the merged transcription and determines a most likely context for the multi-modal natural language input based on the identified entries; and

a response generating module that identifies a domain agent associated with the most likely context for the multi-modal input, communicates a request to the identified domain agent, and generates a response to the user from content provided by the identified domain agent as a result of processing the request.

2. The mobile device of claim 1, wherein the response includes an aggregation of content gathered when the identified domain agent processes the request.

3. The mobile device of claim 1, wherein the conversational speech analysis engine supports interactions with the plurality of users during an overlapping session.

4. The mobile device of claim 1, wherein the conversational speech analysis engine supports interactions with the plurality of users during an interleaved session.

5. The mobile device of claim 4, wherein the mobile device processes queries in an order of receipt during the interleaved session.

6. The mobile device of claim 4, wherein the mobile device processes queries in an order determined by a length of the queries during the interleaved session.

7. The mobile device of claim 1, wherein the conversational speech analysis engine identifies the user based on at least one of voiceprint matching, password matching, or pass-phrase matching.

8. The mobile device of claim 1, wherein the conversational voice user interface subsequently receives one or more follow-up multi-modal inputs, the follow-up multi-modal inputs including at least one of a follow-up natural language utterance or a follow-up non-speech input.

9. The mobile device of claim 8, wherein the identified domain agent updates the context stack and the semantic knowledge-based model in response to processing the request.

10. The mobile device of claim 9, wherein the knowledge-enhanced speech recognition engine determines a most likely context for the follow-up multi-modal input using the updated context stack.

11. The mobile device of claim 9, wherein the conversational speech analysis engine creates a speech-based transcription of the follow-up natural language utterance using the updated semantic knowledge-based model.

12. The mobile device of claim 1, wherein the identified domain agent processes the request by querying one or more local or network information sources.

13. The mobile device of claim 12, wherein one or more of the local or network information sources includes an Internet browsing service.

14. The mobile device of claim 1, wherein the identified domain agent processes the request by directing a command to one or more local or remote devices.

15. A system for processing multi-modal natural language inputs, comprising:

a plurality of mobile devices that support multi-modal natural language interactions with a user;

a context manager communicatively coupled to the plurality of mobile devices, wherein the context manager synchronizes a semantic knowledge-based model and a context stack among the plurality of mobile devices, wherein the semantic knowledge-based model includes a personalized cognitive model derived from one or more prior interactions between the user and one or more of the mobile devices, a general cognitive model derived from one or more prior interactions between a plurality of users and one or more of the mobile devices, and an environmental model derived from an environment of the user and one or more of the mobile devices;

a conversational voice user interface communicatively coupled to one or more of the plurality of mobile devices, wherein the conversational voice user interface receives a multi-modal natural language input from the user that includes at least a natural language utterance;

a conversational speech analysis engine that identifies the user that provided the multi-modal input, the conversational speech analysis engine using a speech recognition engine and the semantic knowledge-based model to create a speech-based transcription of the natural language utterance;

a knowledge-enhanced speech recognition engine that identifies one or more entries in a context stack matching information contained in the speech-based transcription and determines a most likely context for the multi-modal natural language input based on the identified entries; and

a response generating module that identifies a domain agent associated with the most likely context for the multi-modal input, communicates a request to the identified domain agent, and generates a response to the user from content provided by the identified domain agent as a result of processing the request.

16. The system of claim 15, wherein the plurality of mobile devices register with the context manager and subscribe to one or more events that the context manager broadcasts.

17. The system of claim 16, wherein the context module receives an input from one or more of the mobile devices that updates at least one of the semantic knowledge-based model or the context stack.

18. The system of claim 17, wherein the context module broadcasts an event relating to the received input to the subscribed mobile devices.

19. A method for processing multi-modal natural language inputs, comprising:

receiving a multi-modal natural language input at a conversational voice user interface, the multi-modal input including a natural language utterance and a non-speech input provided by a user, wherein a transcription module coupled to the conversational voice user interface transcribes the non-speech input to create a non-speech-based transcription;

identifying the user that provided the multi-modal input;

creating a speech-based transcription of the natural language utterance using a speech recognition engine and a semantic knowledge-based model, wherein the semantic knowledge-based model includes a personalized cognitive model derived from one or more prior interactions between the identified user and the conversational voice user interface, a general cognitive model derived from one or more prior interactions between a plurality of users and the conversational voice user interface, and an environmental model derived from an environment of the identified user and the conversational voice user interface;

merging the speech-based transcription and the non-speech-based transcription to create a merged transcription;

identifying one or more entries in a context stack matching information contained in the merged transcription;

determining a most likely context for the multi-modal input based on the identified entries;

identifying a domain agent associated with the most likely context for the multi-modal input;

communicating a request to the identified domain agent; and

generating a response to the user from content provided by the identified domain agent as a result of processing the request.

20. The method of claim 19, wherein the generated response includes an aggregation of content gathered when the identified domain agent processes the request.

21. The method of claim 19, wherein the conversational voice user interface supports interactions with the plurality of users during an overlapping session.

22. The method of claim 19, wherein the conversational voice user interface supports interactions with the plurality of users during an interleaved session.

23. The method of claim 22, wherein queries are processed in an order of receipt during the interleaved session.

24. The method of claim 23, wherein queries are processed in an order determined by a length of the queries during the interleaved session.

25. The method of claim 19, further comprising verifying an identity of the user based on voiceprint matching, password matching, or pass-phrase matching.

26. The method of claim 19, further comprising receiving one or more follow-up multi-modal inputs at the conversational voice user interface, the follow-up multi-modal inputs including at least one of a follow-up natural language utterance or a follow-up non-speech input.

27. The method of claim 26, wherein the identified domain agent updates the context stack and the semantic knowledge-based model in response to processing the request.

28. The method of claim 27, wherein the knowledge-enhanced speech recognition engine determines a most likely context for the follow-up multi-modal input using the updated context stack.

29. The method of claim 27, wherein the speech recognition engine creates a speech-based transcription of the follow-up natural language utterance using the updated semantic knowledge-based model.

30. The method of claim 19, wherein the identified domain agent processes the request by querying one or more local or network information sources.

31. The method of claim 30, wherein one or more of the local or network information sources includes an Internet browsing service.

32. The method of claim 19, wherein the identified domain agent processes the request by directing a command to one or more local or remote devices.

ABSTRACT

A mobile system is provided that includes speech-based and non-speech-based interfaces for telematics applications. The mobile system identifies and uses context, prior information, domain knowledge, and user specific profile data to achieve a natural environment for users that submit requests and/or commands in multiple domains. The invention creates, stores and uses extensive personal profile information for each user, thereby improving the reliability of determining the context and presenting the expected results for a particular question or command. The invention may organize domain specific behavior and information into agents, that are distributable or updateable over a wide area network.

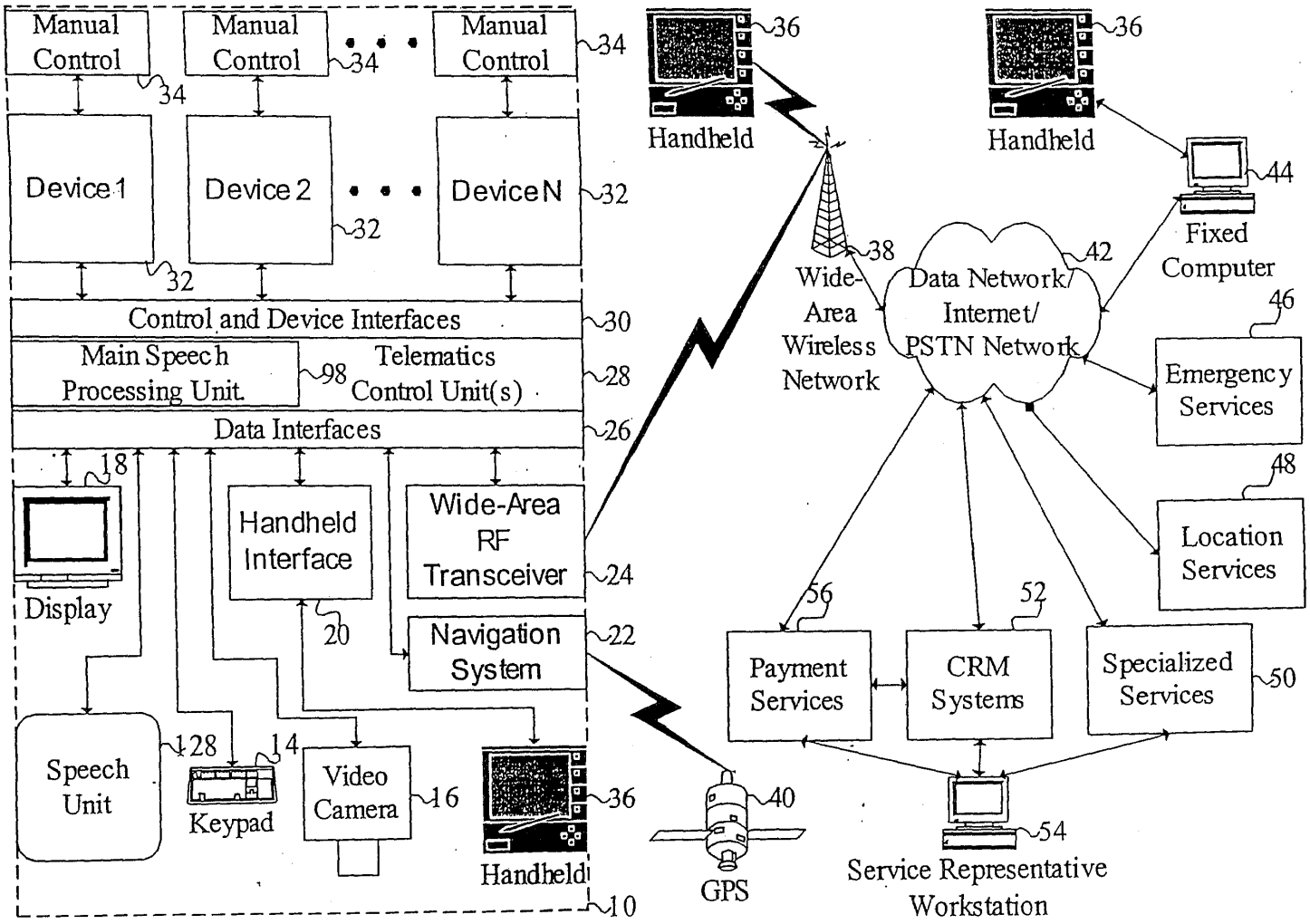

Manual Control
Manual Control
Manual Control
34
Device 1
Device 2
Device N
32
Control and Device Interfaces
30
Main Speech Processing Unit
98
Telematics Control Unit(s)
28
Data Interfaces
26
18
Display
Handheld Interface
20
Wide-Area RF Transceiver
24
Navigation System
22
Speech Unit
128
Keypad
14
Video Camera
16
Handheld
36
10
Handheld
36
Handheld
36
38
Wide-Area Wireless Network
42
Data Network/ Internet/ PSTN Network
44
Fixed Computer
46
Emergency Services
48
Location Services
56
Payment Services
52
CRM Systems
Specialized Services
50
40
GPS
54
Service Representative Workstation

Figure 1

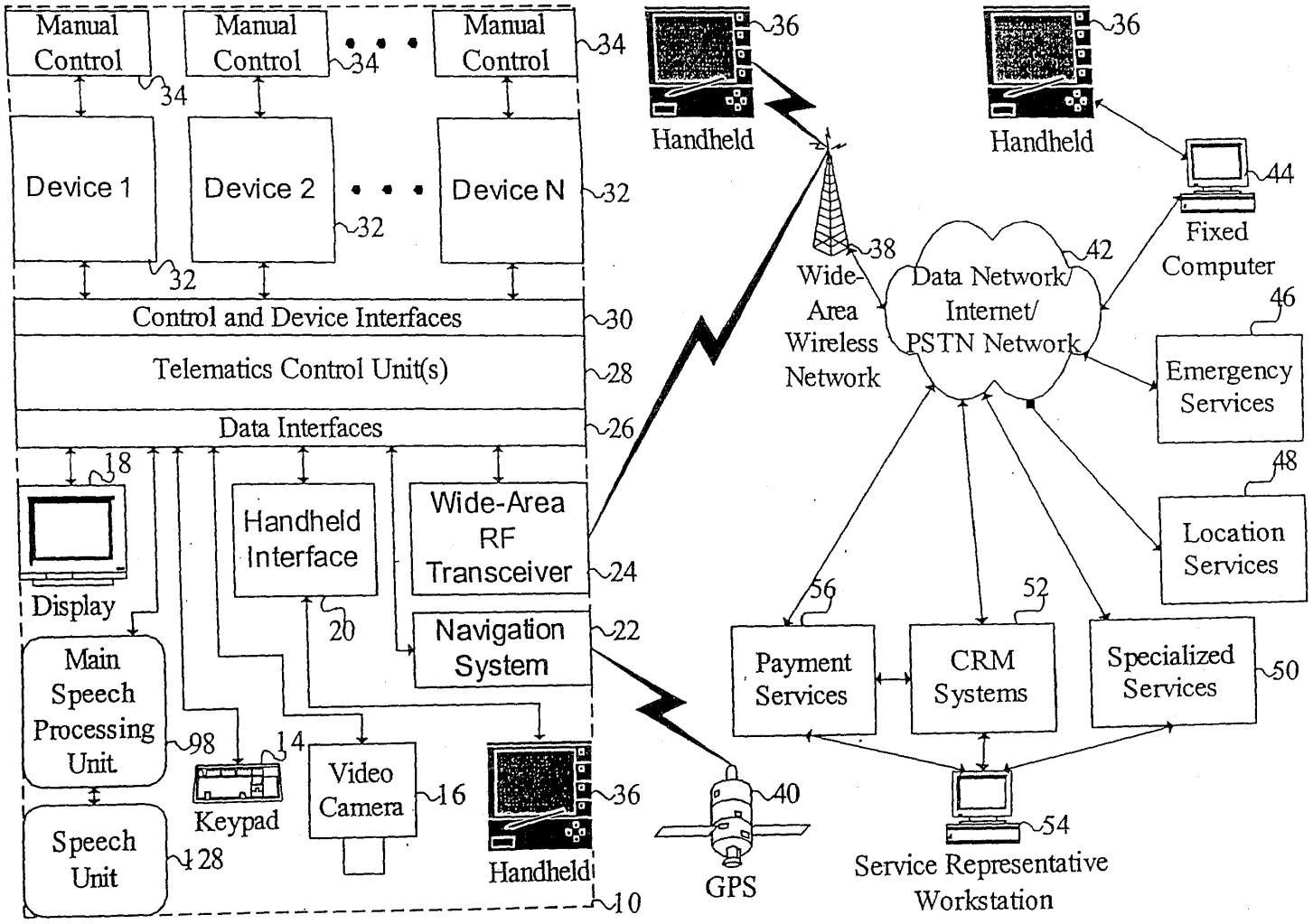

Manual Control
Manual Control
Manual Control
34
Device 1
Device 2
Device N
32
Control and Device Interfaces
30
Telematics Control Unit(s)
28
Data Interfaces
26
18
Display
Handheld Interface
20
Wide-Area RF Transceiver
24
Navigation System
22
Main Speech Processing Unit
98
Speech Unit
128
Keypad
14
Video Camera
16
Handheld
36
10
Handheld
36
Handheld
36
38
Wide-Area Wireless Network
42
Data Network/ Internet/ PSTN Network
44
Fixed Computer
46
Emergency Services
48
Location Services
56
Payment Services
52
CRM Systems
Specialized Services
50
40
GPS
54
Service Representative Workstation

Figure 2

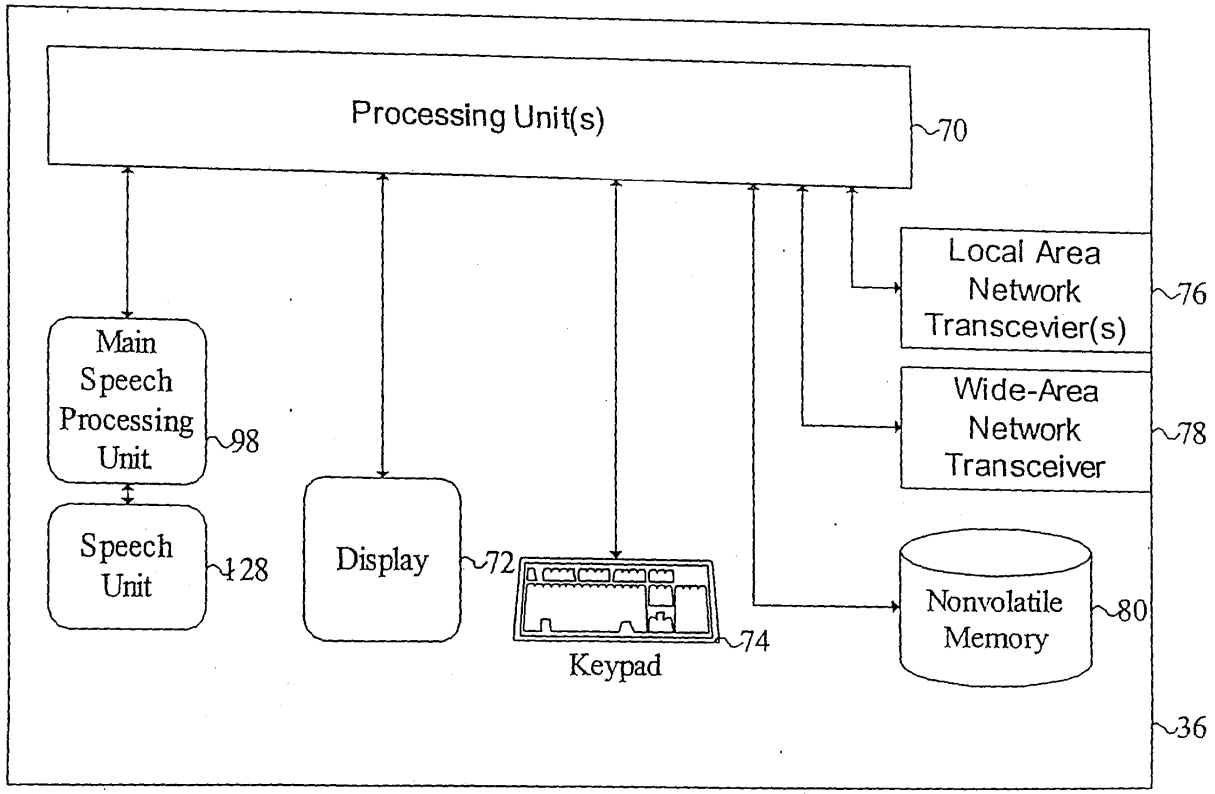

Processing Unit(s)
70
Local Area Network Transcevier(s)
76
Wide-Area Network Transceiver
78
Main Speech Processing Unit
98
Speech Unit
128
Display
72
Keypad
74
Nonvolatile Memory
80
36

Figure 3.

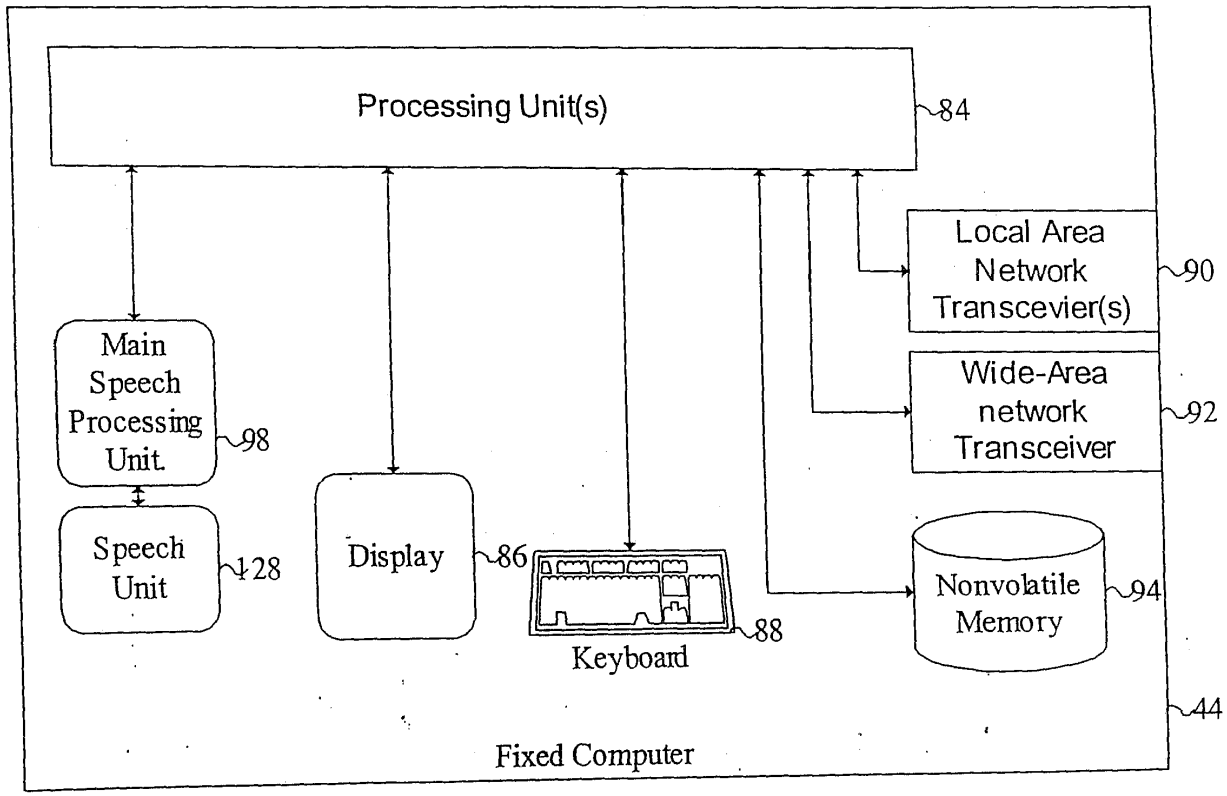

Processing Unit(s)
84
Local Area Network Transcevier(s)
90
Wide-Area network Transceiver
92
Main Speech Processing Unit
98
Speech Unit
128
Display
86
Keyboard
88
Nonvolatile Memory
94
44
Fixed Computer

Figure 4

FIG. 5

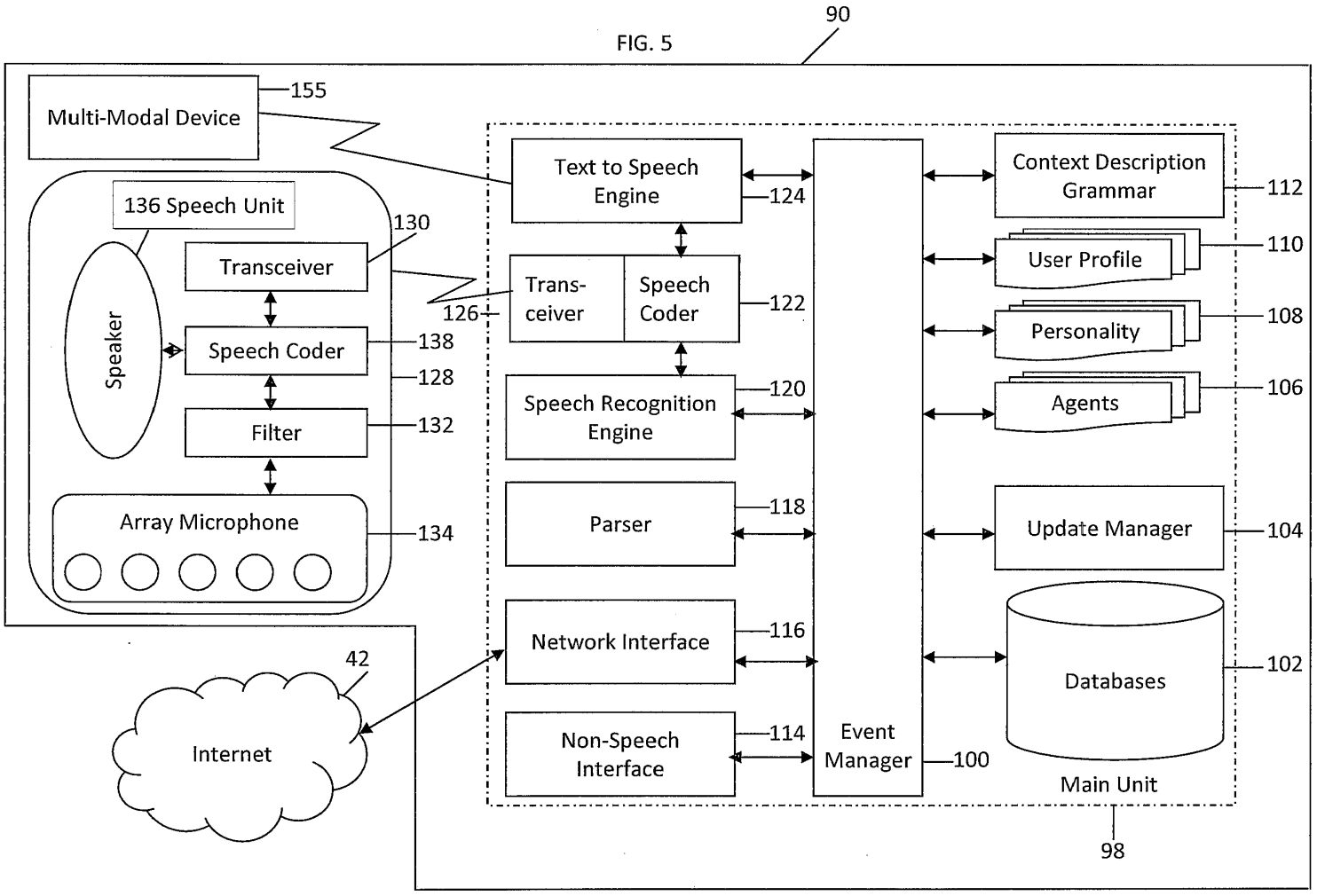

90
Multi-Modal Device
155
136 Speech Unit
130
Transceiver
Speaker
Speech Coder
138
128
Filter
132
Array Microphone
134
126
Text to Speech Engine
124
Trans-ceiver
Speech Coder
122
Speech Recognition Engine
120
Parser
118
Network Interface
116
Non-Speech Interface
114
Event Manager
100
Context Description Grammar
112
User Profile
110
Personality
108
Agents
106
Update Manager
104
Databases
102
Main Unit
98
42
Internet

FIG. 6

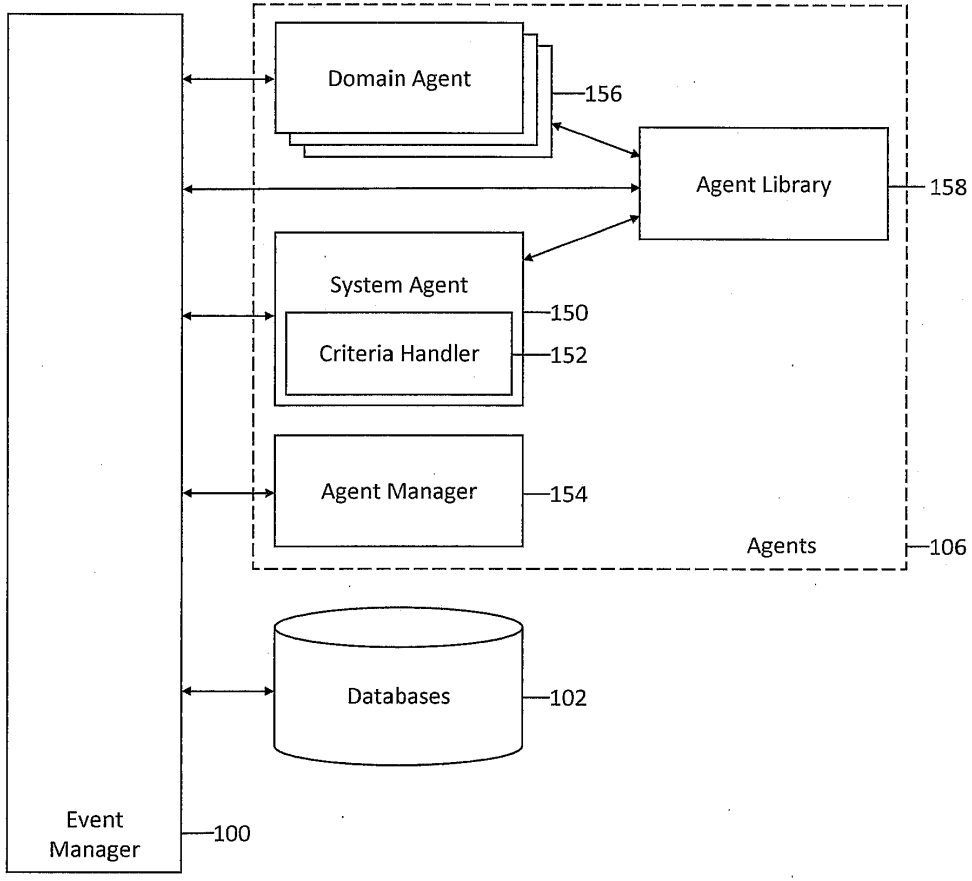
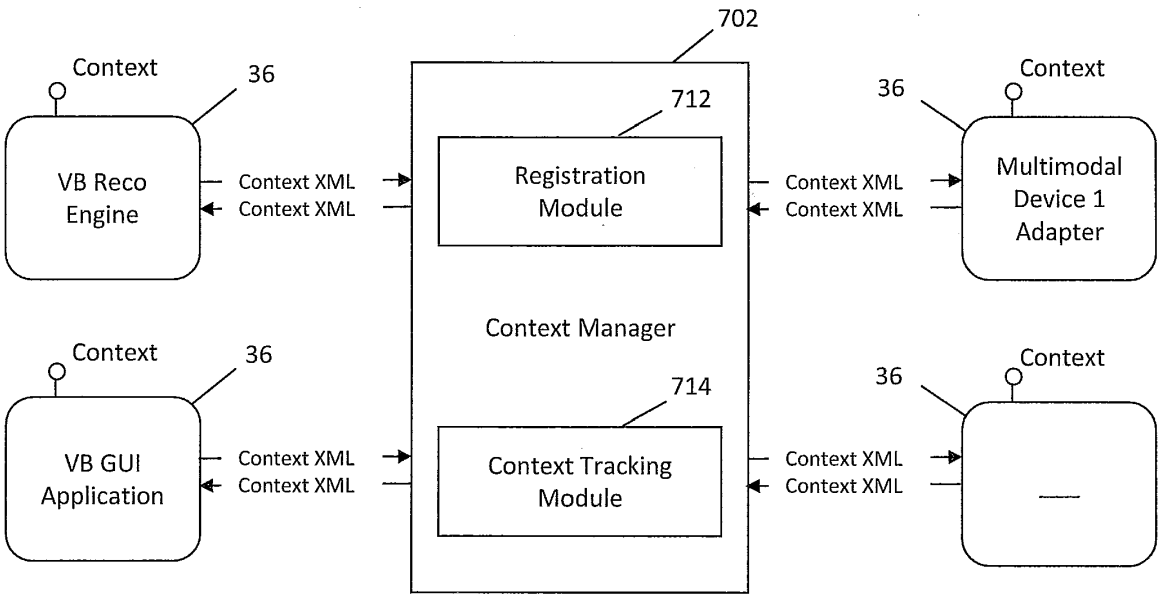

Domain Agent
156
Agent Library
158
System Agent
150
Criteria Handler
152
Agent Manager
154
Agents
106
Databases
102
Event Manager
100

FIG. 7

700


702
Context
36
VB Reco Engine
Context XML
Context XML
712
Registration Module
Context XML
Context XML
36
Context
Multimodal Device 1 Adapter
Context Manager
Context
36
VB GUI Application
Context XML
Context XML
714
Context Tracking Module
Context XML
Context XML
36
Context

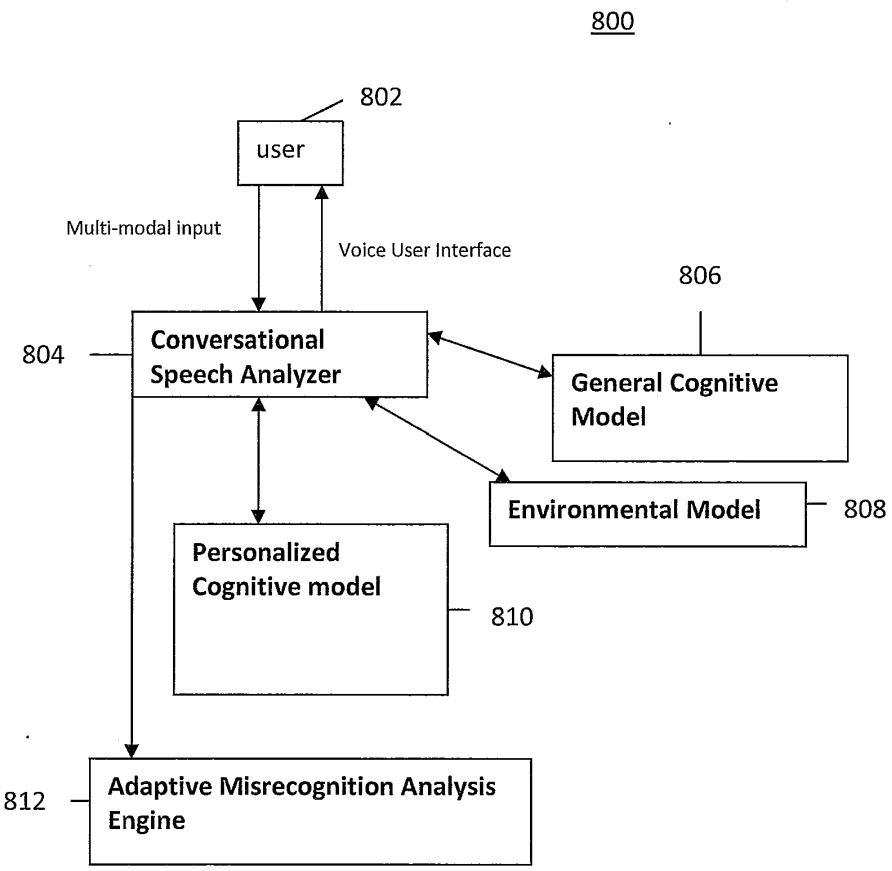

800
802
user
Multi-modal input
Voice User Interface
806
804
Conversational Speech Analyzer
General Cognitive Model
Environmental Model
808
Personalized Cognitive model
810
812
Adaptive Misrecognition Analysis Engine

FIGURE 8

FOR UTILITY
DECLARATION

SUPPLEMENTAL DECLARATION
UNDER RULE 67 (37 C.F.R. 1.67)

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS, the specification of which was filed on August 29, 2005 as U.S. Application No. 11/212,693.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56. Except as noted below, I hereby claim foreign priority benefits under 35 U.S.C. 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate filed by me or my assignee disclosing the subject matter claimed in this application and having a filing date (1) before that of the application on which priority is claimed, or (2) if no priority claimed, before the filing date of this application:

PRIOR FOREIGN APPLICATION(S)

Number	Country	Filed	Date first Laid-open or Published	Date Patented or Granted	Priority Claimed

Except as noted below, I hereby claim domestic priority benefit under 35 U.S.C. 119(e) or 120 and/or 365(c) of the indicated United States applications listed below and PCT international applications listed above or below and, if this is a continuation-in-part (CIP) application, insofar as the subject matter disclosed and claimed in this application is in addition to that disclosed in such prior applications, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in 37 C.F.R. 1.56 which became available between the filing date of each such prior application and the national or PCT international filing date of this application:

PRIOR U.S. PROVISIONAL, NONPROVISIONAL AND/OR PCT APPLICATION(S)

Application Number	Filed	Status	Priority Claimed

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

INVENTOR'S SIGNATURE: _____ Date: 4/16/07

Name	CHRIS		WEIDER
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INVENTOR'S SIGNATURE: _____ Date: 4/16/07

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400557882_1

INVENTOR'S SIGNATURE: _____ Date: April 18, 2007

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	First	Middle Initial	Family Name
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	City	State/Foreign Country	Country of Citizenship
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INVENTOR'S SIGNATURE: _____ Date: 4/16/07

Name	PHILIPPE		DI CRISTO
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	City	State/Foreign Country	Country of Citizenship
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INVENTOR'S SIGNATURE: _____ Date: 4/16/07

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	First	Middle Initial	Family Name
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	City	State/Foreign Country	Country of Citizenship
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INVENTOR'S SIGNATURE: _____ Date: 4/16/07

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	First	Middle Initial	Family Name
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	City	State/Foreign Country	Country of Citizenship
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(include Zip Code)	98007		

INVENTOR'S SIGNATURE: _____ Date: 4-16-2007

Name	LYNN	ELISE	ARMSTRONG
	First	Middle Initial	Family Name
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	City	State/Foreign Country	Country of Citizenship
Mailing Address	19807 183rd Place, N.E., Woodinville, WA 98077		
(include Zip Code)	98077		

Attorney Reference: 090611-0316779

Attorney Docket No. 090611-0316779

COMBINED DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As the below named inventors, we hereby declare that:

Our residences, post office addresses and citizenships are as stated next to our names;

We believe that we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled:

"MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS"

the specification of which is attached hereto.

We have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above;

We acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information which is known to us to be material to the patentability of said invention in accordance with 37 C.F.R. § 1.56;

We do not know and do not believe said invention was ever known or used in the United States of America before our invention thereof, or patented or described in any printed publication in any country before our invention thereof or more than one year prior to said application; that said invention was not in public use or on sale in the United States of America more than one year prior to said application; that said invention has not been patented or made the subject of an inventor's certificate issued before the date of said application in any country foreign to the United States of America on any application filed by us or our legal representatives or assigns more than six months prior to said application;

We hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below:

_____ (Application Number) _____ (Filing Date) (day, month, year)

30546627v1

Attorney Docket No. 090611-0316779

We hereby appoint the following attorneys and/or agents to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

James G. Gatto	Registration No. 32,694
Rick A. Toering	Registration No. 43,195
Bradford C. Blaise	Registration No. 47,429
Sean L. Ingram	Registration No. 48,283

Address all telephone calls to James G. Gatto at telephone number 703-905-2054. Address all correspondence to Customer Number

00909

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of first inventor: **Chris Weider**

Inventor's signature _____ Date 8/26/05

Residence: 2818 Grand Ave, #B-508
Everett, Washington 98201

Citizen of: United States of America

Post Office Address: Same as residence

Full name of second inventor: **Rich Kennewick**

Inventor's signature _____ Date 8/26/05

Residence: 14222 227th Ave. NE
Woodinville, Washington 98077

Citizen of: United States of America

Post Office Address: Same as residence

Meta Platforms, Inc. - Exhibit 1002
Page 82 of 281

Attorney Docket No. 090611-0316779

Full name of third inventor: **Mike Kennewick**

Inventor's signature _____ Date 8/26/05

Residence: 13407 NE 37th Place
Bellevue, Washington 98005

Citizen of: United States of America

Post Office Address: Same as residence

Full name of fourth inventor: **Philippe Di Cristo**

Inventor's signature _____ Date 8/26/05

Residence: 177 107th Avenue, N.E., #1007
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Citizen of: France

Post Office Address: Same as residence

Full name of fifth inventor: **Robert A. Kennewick**

Inventor's signature _____ Date 8/26/05

Residence: 2204 S. Eddy Street
Seattle, Washington 98108

Citizen of: United States of America

Post Office Address: Same as residence

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS :	Chris WEIDER *et al.*	CONFIRMATION NO.:	To be Determined
SERIAL NUMBER :	To be Determined	EXAMINER:	To be Determined
FILING DATE :	Herewith (June 4, 2012)	ART UNIT:	To be Determined
FOR :	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS		

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97 and 1.98, Applicants hereby make of record in the above-identified application the documents listed on the attached Form PTO-1449.

Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This Information Disclosure Statement is being filed within three months of the filing date of a national application other than a continued prosecution application under 37 C.F.R. § 1.53(d), or within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, or before the mailing date of a first Office Action on the merits, or before the mailing date of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No certification or fee is required. 37 C.F.R. § 1.97(b).

The foreign patent documents and the non-patent literature ("Other Documents") were cited by or submitted to the Office in Application No. 13/084,197, filed April 11, 2011, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus copies of these documents are not attached. 37 C.F.R. § 1.98(d).

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP

By /Chen Li/
Chen Li
Registration No.: 67,448

Customer No.
00909

P. O. Box 10500
McLean, Virginia 22102
Telephone: (703) 770-7900
Telefax: (703) 770-7901

Dated: June 4, 2012

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	*To be Determined*
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	Herewith (June 4, 2012)	*To be Determined*

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	1A	4,430,669	02/07/1984	Cheung	358	122	
	1B	5,027,406	06/25/1991	Roberts *et al.*	381	43	
	1C	5,155,743	10/13/1992	Jacobs	375	28	
	1D	5,208,748	05/04/1993	Flores *et al.*	364	419	
	1E	5,274,560	12/28/1993	LaRue	364	444	
	1F	5,357,596	10/18/1994	Takebayashi *et al.*	395	2.84	
	1G	5,377,350	12/27/1994	Skinner	395	600	
	1H	5,386,556	01/31/1995	Hedin et al.	395	600	
	1I	5,424,947	06/13/1995	Nagao et al.	364	419.08	
	1J	5,471,318	11/28/1995	Ahuja et al.	358	400	
	1K	5,475,733	12/12/1995	Eisdorfer et al.	379	52	
	1L	5,488,652	01/30/1996	Bielby *et al.*	379	88	
	1M	5,499,289	03/12/1996	Bruno et al.	379	220	
	1N	5,500,920	03/19/1996	Kupiec	395	2.79	
	1O	5,517,560	05/14/1996	Greenspan	379	114	
	1P	5,533,108	07/02/1996	Harris et al.	379	201	
	1Q	5,537,436	07/16/1996	Bottoms et al.	375	222	
	1R	5,539,744	07/23/1996	Chu et al.	370	60	
	1S	5,557,667	09/17/1996	Bruno et al.	379	201	
	1T	5,563,937	10/08/1996	Bruno et al.	379	201	
	1U	5,577,165	11/19/1996	Takebayashi et al.	395	2.84	
	1V	5,590,039	12/31/1996	Ikeda et al.	395	759	
	1W	5,608,635	03/04/1997	Tamai	364	449.3	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO
	1X	1 320 043 A2	06/18/2003	Europe				
	1Y	1 646 037	04/12/2006	Europe				
	1Z	WO 99/46763	09/16/1999	International				
	1AA	WO 00/21232	04/13/2000	International				
	1BB	WO 00/46792	08/10/2000	International				

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

	1CC	REUTERS, "IBM to Enable Honda Drivers to Talk to Cars", Charles Schwab & Co., Inc., July 28, 2002, 1 page.
	1DD	LIN, Bor-shen, *et al.*, "A Distributed Architecture for Cooperative Spoken Dialogue Agents with Coherent Dialogue State and History", ASRU'99, 1999, 4 pages.

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	*To be Determined*
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	Herewith (June 4, 2012)	*To be Determined*

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	2A	5,617,407	04/01/1997	Bareis	369	275.3	
	2B	5,633,922	05/27/1997	August et al.	379	220	
	2C	5,675,629	10/07/1997	Raffel et al.	379	58	
	2D	5,696,965	12/09/1997	Dedrick	395	610	
	2E	5,708,422	01/13/1998	Blonder et al.	340	825.34	
	2F	5,721,938	02/24/1998	Stuckey	395	754	
	2G	5,722,084	02/24/1998	Chakrin et al.	455	551	
	2H	5,740,256	04/14/1998	Castello Da Costa *et al.*	361	94.7	
	2I	5,742,763	04/21/1998	Jones	395	200.3	
	2J	5,748,841	05/05/1998	Morin *et al.*	395	2.66	
	2K	5,748,974	05/05/1998	Johnson	395	759	
	2L	5,752,052	05/12/1998	Richardson et al.	395	759	
	2M	5,754,784	05/19/1998	Garland et al.	395	200.49	
	2N	5,761,631	06/02/1998	Nasukawa	704	9	
	2O	5,774,859	06/30/1998	Houser *et al.*	704	275	
	2P	5,794,050	08/11/1998	Dahlgren et al.	395	708	
	2Q	5,794,196	08/11/1998	Yegnanarayanan *et al.*	704	255	
	2R	5,797,112	08/18/1998	Komatsu *et al.*	701	201	
	2S	5,799,276	08/25/1998	Komissarchik *et al.*	704	251	
	2T	5,802,510	09/01/1998	Jones	707	2	
	2U	5,832,221	11/03/1998	Jones	375	200.36	
	2V	5,839,107	11/17/1998	Gupta *et al.*	704	270	
	2W	5,848,396	12/08/1998	Gerace	705	10	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO
	2X	WO 01/78065	10/18/2001	International				
	2Y	WO 2004/072954	08/26/2004	International				
	2Z	WO 2007/019318	02/15/2007	International				
	2AA	WO 2007/021587	02/22/2007	International				
	2BB	WO 2007/027546	03/08/2007	International				

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

	2CC	KUHN, Thomas, *et al.*, "Hybrid In-Car Speech Recognition for Mobile Multimedia Applications", Vehicular Technology Conference, IEEE, July 1999, pages 2009-2013.
	2DD	BELVIN, Robert, *et al.*, "Development of the HRL Route Navigation Dialogue System", Proceedings of the First International Conference on Human Language Technology Research, San Diego, 2001, pages 1-5.

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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	090611-0408808	*To be Determined*
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	Herewith (June 4, 2012)	*To be Determined*

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	3A	5,867,817	02/02/1999	Catallo *et al.*	704	255	
	3B	5,878,385	03/02/1999	Bralich *et al.*	704	9	
	3C	5,878,386	03/02/1999	Coughlin	704	10	
	3D	5,892,813	04/06/1999	Morin *et al.*	379	88.01	
	3E	5,895,464	04/20/1999	Bhandari *et al.*	707	3	
	3F	5,895,466	04/20/1999	Goldberg et al.	707	5	
	3G	5,897,613	04/27/1999	Chan	704	210	
	3H	5,902,347	05/11/1999	Backman *et al.*	701	200	
	3I	5,911,120	06/08/1999	Jarett et al.	455	417	
	3J	5,918,222	06/29/1999	Fukui *et al.*	707	1	
	3K	5,926,784	07/20/1999	Richardson et al.	704	9	
	3L	5,933,822	08/03/1999	Braden-Harder et al.	707	5	
	3M	5,953,393	09/14/1999	Culbreth et al.	379	88.25	
	3N	5,960,397	09/28/1999	Rahim	704	244	
	3O	5,960,399	09/28/1999	Barclay *et al.*	704	270	
	3P	5,960,447	09/28/1999	Holt *et al.*	707	500	
	3Q	5,963,894	10/05/1999	Richardson et al.	704	9	
	3R	5,963,940	10/05/1999	Liddy et al.	707	5	
	3S	5,987,404	11/16/1999	Della Pietra et al.	704	9	
	3T	5,991,721	11/23/1999	Asano et al.	704	257	
	3U	5,995,119	11/30/1999	Cosatto et al.	345	473	
	3V	5,995,928	11/30/1999	Nguyen *et al.*	704	251	
	3W	6,009,382	12/28/1999	Martino et al.	704	1	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO
	3X	WO 2007/027989	03/08/2007	International				
	3Y	WO 2008/098039	08/14/2008	International				
	3Z	WO 2008/118195	10/02/2008	International				
	3AA	WO 2009/075912	06/18/2009	International				
	3BB	WO 2009/145796	12/03/2009	International				

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

	3CC	LIND, R., *et al.*, "The Network Vehicle—A Glimpse into the Future of Mobile Multi-Media", IEEE Aerosp. Electron. Systems Magazine, Volume 14, No. 9, September 1999, pages 27-32.
	3DD	ZHAO, Yilin, "Telematics: Safe and Fun Driving", IEEE Intelligent Systems, Volume 17, Issue 1, 2002, pages 10-14.

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	*To be Determined*
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	Herewith (June 4, 2012)	*To be Determined*

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	4A	6,014,559	01/11/2000	Amin	455	413	
	4B	6,018,708	01/25/2000	Dahan *et al.*	704	244	
	4C	6,021,384	02/01/2000	Gorin et al.	704	1	
	4D	6,035,267	03/07/2000	Watanabe *et al.*	704	1	
	4E	6,044,347	03/28/2000	Abella et al.	704	272	
	4F	6,049,602	04/11/2000	Foladare et al.	379	265	
	4G	6,049,607	04/11/2000	Marash *et al.*	379	410	
	4H	6,058,187	05/02/2000	Chen	380	21	
	4I	6,067,513	05/23/2000	Ishimitsu	704	233	
	4J	6,078,886	06/20/2000	Dragosh et al.	704	270	
	4K	6,081,774	06/27/2000	De Hita et al.	704	9	
	4L	6,085,186	07/04/2000	Christianson *et al.*	707	3	
	4M	6,101,241	08/08/2000	Boyce et al.	379	88.01	
	4N	6,108,631	08/22/2000	Ruhl	704	270	
	4O	6,119,087	09/12/2000	Kuhn et al.	704	270	
	4P	6,134,235	10/17/2000	Goldman et al.	370	352	
	4Q	6,144,667	11/07/2000	Doshi et al.	370	401	
	4R	6,144,938	11/07/2000	Surace *et al.*	704	257	
	4S	6,154,526	11/28/2000	Dahlke *et al.*	379	88.03	
	4T	6,160,883	12/12/2000	Jackson et al.	379	230	
	4U	6,167,377	12/26/2000	Gillick *et al.*	704	240	
	4V	6,173,266	01/09/2001	Marx *et al.*	704	270	
	4W	6,173,279	01/09/2001	Levin et al.	707	5	

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	4X	WO 2010/096752	08/26/2010	International				

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	4Y	CHAI *et al.*, "MIND: A Semantics-Based Multimodal Interpretation Framework for Conversational System", Proceedings of the International CLASS Workshop on Natural, Intelligent and Effective Interaction in Multimodal Dialogue Systems, June 2002, pages 37-46.
	4Z	CHEYER *et al.*, "Multimodal Maps: An Agent-Based Approach", International Conference on Cooperative Multimodal Communication (CMC/95), May 24-26, 1995, pages 111-121.
	4AA	ELIO *et al.*, "On Abstract Task Models and Conversation Policies" in Workshop on Specifying and Implementing Conversation Policies, Autonomous Agents '99, Seattle, 1999, 10 pages.

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	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	Herewith (June 4, 2012)	*To be Determined*

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*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5A	6,175,858	01/16/2001	Bulfer *et al.*	709	206	
	5B	6,185,535	02/06/2001	Hedin *et al.*	704	270	
	5C	6,188,982	02/13/2001	Chiang	704	256	
	5D	6,192,110	02/20/2001	Abella *et al.*	379	88.01	
	5E	6,192,338	02/20/2001	Haszto *et al.*	704	257	
	5F	6,195,634	02/27/2001	Dudemaine *et al.*	704	231	
	5G	6,195,651	02/27/2001	Handel *et al.*	707	2	
	5H	6,208,964	03/27/2001	Sabourin	704	244	
	5I	6,208,972	03/27/2001	Grant *et al.*	704	275	
	5J	6,219,346	04/17/2001	Maxemchuk	370	338	
	5K	6,219,643	04/17/2001	Cohen *et al.*	704	257	
	5L	6,226,612	05/01/2001	Srenger *et al.*	704	256	
	5M	6,233,556	05/15/2001	Teunen *et al.*	704	250	
	5N	6,233,559	05/15/2001	Balakrishnan	704	275	
	5O	6,233,561	05/15/2001	Junqua *et al.*	704	277	
	5P	6,246,981	06/12/2001	Papineni *et al.*	704	235	
	5Q	6,266,636	07/24/2001	Kosaka *et al.*	704	244	
	5R	6,269,336	07/31/2001	Ladd *et al.*	704	270	
	5S	6,272,455	08/07/2001	Hoshen *et al.*	704	1	
	5T	6,275,231	08/14/2001	Obradovich	345	349	
	5U	6,278,968	08/21/2001	Franz *et al.*	704	3	
	5V	6,288,319	09/11/2001	Catona	84	609	
	5W	6,292,767	09/18/2001	Jackson *et al.*	704	1	

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	5X	TURUNEN, "Adaptive Interaction Methods in Speech User Interfaces", Conference on Human Factors in Computing Systems, Seattle, Washington, 2001, pages 91-92.
	5Y	MAO, Mark Z., "Automatic Training Set Segmentation for Multi-Pass Speech Recognition", Department of Electrical Engineering, Stanford University, CA, copyright 2005, IEEE, pages I-685 to I-688.
	5Z	VANHOUCKE, Vincent, "Confidence Scoring and Rejection Using Multi-Pass Speech Recognition", Nuance Communications, Menlo Park, CA, 2005, 4 pages.

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	6A	6,308,151	10/23/2001	Smith	704	235	
	6B	6,314,402	11/06/2001	Monaco et al.	704	275	
	6C	6,362,748	03/26/2002	Huang	340	901	
	6D	6,366,882	04/02/2002	Bijl *et al.*	704	235	
	6E	6,366,886	04/02/2002	Dragosh et al.	704	270.1	
	6F	6,374,214	04/16/2002	Friedland *et al.*	704	235	
	6G	6,377,913	04/23/2002	Coffman *et al.*	704	8	
	6H	6,381,535	04/30/2002	Durocher *et al.*	701	202	
	6I	6,385,596	05/07/2002	Wiser *et al.*	705	51	
	6J	6,385,646	05/07/2002	Brown et al.	709	217	
	6K	6,393,428	05/21/2002	Miller et al.	707	102	
	6L	6,397,181	05/28/2002	Li *et al.*	704	256	
	6M	6,404,878	06/11/2002	Jackson et al.	379	221.01	
	6N	6,405,170	06/11/2002	Phillips *et al.*	704	270	
	6O	6,408,272	06/18/2002	White *et al.*	704	270.1	
	6P	6,411,810	06/25/2002	Maxemchuk	455	453	
	6Q	6,415,257	07/02/2002	Junqua *et al.*	704	275	
	6R	6,418,210	07/09/2002	Sayko	379	142.15	
	6S	6,420,975	07/16/2002	DeLine *et al.*	340	815.4	
	6T	6,429,813	08/06/2002	Feigen	342	357.13	
	6U	6,430,285	08/06/2002	Bauer et al.	379	265.01	
	6V	6,430,531	08/06/2002	Polish	704	257	
	6W	6,434,523	08/13/2002	Monaco	704	257	

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	6X	WENG, Fuliang, *et al.*, "Efficient Lattice Representation and Generation", Speech Technology and Research Laboratory, SRI International, Menlo Park, CA, 1998, 4 pages.
	6Y	EL MELIANI *et al.*, "A Syllabic-Filler-Based Continuous Speech Recognizer for Unlimited Vocabulary", Canadian Conference on Electrical and Computer Engineering, Volume 2, September 5-8, 1995, pages 1007-1010.

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	7A	6,434,524	08/13/2002	Weber	704	257	
	7B	6,434,529	08/13/2002	Walker *et al.*	704	275	
	7C	6,442,522	08/27/2002	Carberry et al.	704	257	
	7D	6,446,114	09/03/2002	Bulfer et al.	709	206	
	7E	6,453,153	09/17/2002	Bowker et al.	455	67.4	
	7F	6,453,292	09/17/2002	Ramaswamy et al.	704	235	
	7G	6,456,711	09/24/2002	Cheung et al.	379	265.09	
	7H	6,456,974	09/24/2002	Baker *et al.*	704	270.1	
	7I	6,466,654	10/15/2002	Cooper *et al.*	379	88.01	
	7J	6,466,899	10/15/2002	Yano *et al.*	704	1	
	7K	6,470,315	10/22/2002	Netsch *et al.*	704	256	
	7L	6,498,797	12/24/2002	Anerousis et al.	370	522	
	7M	6,499,013	12/24/2002	Weber	704	257	
	7N	6,501,833	12/31/2002	Phillips *et al.*	379	88.07	
	7O	6,501,834	12/31/2002	Milewski et al.	379	93.24	
	7P	6,510,417	01/21/2003	Woods *et al.*	704	275	
	7Q	6,513,006	01/28/2003	Howard *et al.*	704	257	
	7R	6,522,746	02/18/2003	Marchok *et al.*	379	406.03	
	7S	6,523,061	02/18/2003	Halverson et al.	709	202	
	7T	6,532,444	03/11/2003	Weber	704	257	
	7U	6,539,348	03/25/2003	Bond et al.	704	9	
	7V	6,549,629	04/15/2003	Finn *et al.*	381	92	
	7W	6,553,372	04/22/2003	Brassell et al.	707	5	

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	7X	ARRINGTON, Michael, "Google Redefines GPS Navigation Landscape: Google Maps Navigation for Android 2.0", TechCrunch, printed from the Internet <http://www.techcrunch.com/2009/10/28/google-redefines-car-gps-navigation-google-maps-navigation-android/>, October 28, 2009, 4 pages.
	7Y	BAZZI, Issam *et al.*, "Heterogeneous Lexical Units for Automatic Speech Recognition: Preliminary Investigations", Processing of the IEEE International Conference on Acoustics, Speech, and Signal Processing, Volume 3, June 5-9, 2000, XP010507574, pages 1257-1260.

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	8A	6,556,970	04/29/2003	Sasaki *et al.*	704	257	
	8B	6,556,973	04/29/2003	Lewin	704	277	
	8C	6,560,576	05/06/2003	Cohen et al.	704	270	
	8D	6,560,590	05/06/2003	Shwe *et al.*	706	55	
	8E	6,567,778	05/20/2003	Chao Chang et al.	704	257	
	8F	6,567,797	05/20/2003	Schuetze *et al.*	707	2	
	8G	6,570,555	05/27/2003	Prevost *et al.*	345	156	
	8H	6,570,964	05/27/2003	Murveit et al.	379	67.1	
	8I	6,574,597	06/03/2003	Mohri *et al.*	704	251	
	8J	6,574,624	06/03/2003	Johnson et al.	707	5	
	8K	6,581,103	06/17/2003	Dengler	709	231	
	8L	6,587,858	07/01/2003	Strazza	707	102	
	8M	6,591,239	07/08/2003	McCall *et al.*	704	275	
	8N	6,594,257	07/15/2003	Doshi et al.	370	352	
	8O	6,594,367	07/15/2003	Marash *et al.*	381	92	
	8P	6,598,018	07/22/2003	Junqua	704	251	
	8Q	6,604,075	08/05/2003	Brown *et al.*	704	270.1	
	8R	6,604,077	08/05/2003	Dragosh et al.	704	270.1	
	8S	6,606,598	08/12/2003	Holthouse *et al.*	704	275	
	8T	6,611,692	08/26/2003	Raffel et al.	455	552	
	8U	6,614,773	09/02/2003	Maxemchuk	370	337	
	8V	6,615,172	09/02/2003	Bennett *et al.*	704	257	
	8W	6,622,119	09/16/2003	Ramaswamy *et al.*	704	9	

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	8X	O'SHAUGHNESSY, Douglas, "Interacting with Computers by Voice: Automatic Speech Recognition and Synthesis", Proceedings of the IEEE, Volume 91, No. 9, September 1, 2003, XP011100665, pages 1272-1305.
	8Y	"Statement in Accordance with the Notice from the European Patent Office dated 1 October 2007 Concerning Business Methods (OJ EPO 11/2007, 592-593), XP002456252

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	9A	6,629,066	09/30/2003	Jackson et al.	704	9	
	9B	6,631,346	10/07/2003	Karaorman *et al.*	704	9	
	9C	6,633,846	10/14/2003	Bennett *et al.*	704	257	
	9D	6,643,620	11/04/2003	Contolini *et al.*	704	270	
	9E	6,650,747	11/18/2003	Bala et al.	379	265.06	
	9F	6,658,388	12/02/2003	Kleindienst *et al.*	704	275	
	9G	6,678,680	01/13/2004	Woo	707	6	
	9H	6,681,206	01/20/2004	Gorin *et al.*	704	243	
	9I	6,691,151	02/10/2004	Cheyer et al.	709	202	
	9J	6,701,294	03/02/2004	Ball *et al.*	704	257	
	9K	6,704,708	03/09/2004	Pickering	704	235	
	9L	6,708,150	03/16/2004	Hirayama *et al.*	704	243	
	9M	6,721,001	04/13/2004	Berstis	348	231.3	
	9N	6,721,706	04/13/2004	Strubbe *et al.*	704	275	
	9O	6,735,592	05/11/2004	Neumann *et al.*	707	101	
	9P	6,741,931	05/25/2004	Kohut *et al.*	701	209	
	9Q	6,742,021	05/25/2004	Halverson *et al.*	709	218	
	9R	6,751,591	06/15/2004	Gorin *et al.*	704	257	
	9S	6,751,612	06/15/2004	Schuetze *et al.*	707	4	
	9T	6,754,485	06/22/2004	Obradovich *et al.*	455	414.1	
	9U	6,757,544	06/29/2004	Rangarajan *et al.*	455	456.1	
	9V	6,757,718	06/29/2004	Halverson *et al.*	709	218	
	9W	6,795,808	09/21/2004	Strubbe *et al.*	704	275	

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	10A	6,801,604	10/05/2004	Maes *et al.*	379	88.17	
	10B	6,801,893	10/05/2004	Backfried *et al.*	704	257	
	10C	6,829,603	12/07/2004	Chai *et al.*	707	5	
	10D	6,832,230	12/14/2004	Zilliacus *et al.*	707	203	
	10E	6,833,848	12/21/2004	Wolff *et al.*	345	719	
	10F	6,856,990	02/15/2005	Barile *et al.*	707	10	
	10G	6,865,481	03/08/2005	Kawazoe *et al.*	701	211	
	10H	6,868,380	03/15/2005	Kroeker	704	240	
	10I	6,877,001	04/05/2005	Wolf *et al.*	707	3	
	10J	6,877,134	04/05/2005	Fuller *et al.*	715	500.1	
	10K	6,901,366	05/31/2005	Kuhn *et al.*	704	275	
	10L	6,910,003	06/21/2005	Arnold *et al.*	704	4	
	10M	6,912,498	06/28/2005	Stevens *et al.*	704	235	
	10N	6,934,756	08/23/2005	Maes	709	227	
	10O	6,937,977	08/30/2005	Gerson	704	201	
	10P	6,944,594	09/13/2005	Busayapongchai *et al.*	704	275	
	10Q	6,950,821	09/27/2005	Faybishenko *et al.*	707	10	
	10R	6,954,755	10/11/2005	Reisman	707	10	
	10S	6,959,276	10/25/2005	Droppo *et al.*	704	226	
	10T	6,968,311	11/22/2005	Knockeart *et al.*	704	270	
	10U	6,973,387	12/06/2005	Masclet *et al.*	701	211	
	10V	6,975,993	12/13/2005	Keiller	704	275	
	10W	6,980,092	12/27/2005	Turnbull *et al.*	340	425.5	

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	11A	6,983,055	01/03/2006	Luo	381	313	
	11B	6,990,513	01/24/2006	Belfiore *et al.*	709	203	
	11C	6,996,531	02/07/2006	Korall *et al.*	704	270	
	11D	7,003,463	02/21/2006	Maes *et al.*	704	270.1	
	11E	7,016,849	03/21/2006	Arnold *et al.*	704	275	
	11F	7,020,609	03/28/2006	Thrift *et al.*	704	270.1	
	11G	7,024,364	04/04/2006	Guerra *et al.*	704	270	
	11H	7,027,975	04/11/2006	Pazandak *et al.*	704	9	
	11I	7,035,415	04/25/2006	Belt *et al.*	381	92	
	11J	7,043,425	05/09/2006	Pao	704	211	
	11K	7,054,817	05/30/2006	Shao	704	270	
	11L	7,058,890	06/06/2006	George *et al.*	715	728	
	11M	7,062,488	06/13/2006	Reisman	707	8	
	11N	7,069,220	06/27/2006	Coffman *et al.*	704	275	
	11O	7,072,834	07/04/2006	Zhou	704	244	
	11P	7,082,469	07/25/2006	Gold *et al.*	709	231	
	11Q	7,092,928	08/15/2006	Elad *et al.*	706	60	
	11R	7,107,210	09/12/2006	Deng *et al.*	704	226	
	11S	7,110,951	09/19/2006	Lemelson *et al.*	704	270	
	11T	7,127,400	10/24/2006	Koch	704	270.1	
	11U	7,136,875	11/14/2006	Anderson *et al.*	707	104.1	
	11V	7,137,126	11/14/2006	Coffman *et al.*	719	328	
	11W	7,143,037	11/28/2006	Chestnut	704	251	

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	12A	7,146,319	12/05/2006	Hunt	704	254	
	12B	7,165,028	01/16/2007	Gong	704	233	
	12C	7,184,957	02/27/2007	Brookes *et al.*	704	246	
	12D	7,197,069	03/27/2007	Agazzi *et al.*	375	233	
	12E	7,203,644	04/10/2007	Anderson *et al.*	704	246	
	12F	7,206,418	04/17/2007	Yang *et al.*	381	92	
	12G	7,207,011	04/17/2007	Mulvey *et al.*	715	812	
	12H	7,228,276	06/05/2007	Omote *et al.*	704	243	
	12I	7,231,343	06/12/2007	Treadgold *et al.*	704	9	
	12J	7,236,923	06/26/2007	Gupta	704	9	
	12K	7,277,854	10/02/2007	Bennett *et al.*	704	257	
	12L	7,289,606	10/30/2007	Sibal *et al.*	379	52	
	12M	7,301,093	11/27/2007	Sater *et al.*	84	615	
	12N	7,305,381	12/04/2007	Poppink *et al.*	1	1	
	12O	7,328,155	02/05/2008	Endo *et al.*	704	251	
	12P	7,337,116	02/26/2008	Charlesworth *et al.*	704	254	
	12Q	7,340,040	03/04/2008	Saylor *et al.*	379	67.1	
	12R	7,366,669	04/29/2008	Nishitani *et al.*	704	256	
	12S	7,376,645	05/20/2008	Bernard	707	3	
	12T	7,386,443	06/10/2008	Parthasarathy *et al.*	704	201	
	12U	7,398,209	07/08/2008	Kennewick *et al.*	704	255	
	12V	7,406,421	07/29/2008	Odinak *et al.*	704	275	
	12W	7,415,414	08/19/2008	Azara *et al.*	704	270	

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OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

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	Filing Date	Group Art Unit
Form PTO-1449	Herewith (June 4, 2012)	*To be Determined*

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	13A	7,424,431	09/09/2008	Greene *et al.*	704	270	
	13B	7,447,635	11/04/2008	Konopka *et al.*	704	275	
	13C	7,461,059	12/02/2008	Richardson *et al.*	707	5	
	13D	7,472,020	12/30/2008	Brulle-Drews	701	211	
	13E	7,472,060	12/30/2008	Gorin *et al.*	704	240	
	13F	7,478,036	01/13/2009	Shen *et al.*	704	9	
	13G	7,487,088	02/03/2009	Gorin *et al.*	704	240	
	13H	7,493,259	02/17/2009	Jones *et al.*	704	257	
	13I	7,493,559	02/17/2009	Wolff *et al.*	715	727	
	13J	7,502,738	03/10/2009	Kennewick *et al.*	704	257	
	13K	7,516,076	04/07/2009	Walker *et al.*	704	275	
	13L	7,536,297	05/19/2009	Byrd *et al.*	704	10	
	13M	7,536,374	05/19/2009	Au	706	55	
	13N	7,558,730	07/07/2009	Davis *et al.*	704	235	
	13O	7,574,362	08/11/2009	Walker *et al.*	704	275	
	13P	7,577,244	08/18/2009	Taschereau	379	218.01	
	13Q	7,606,708	10/20/2009	Hwang	704	257	
	13R	7,620,549	11/17/2009	Di Cristo *et al.*	704	257	
	13S	7,634,409	12/15/2009	Kennewick *et al.*	704	257	
	13T	7,640,160	12/29/2009	Di Cristo *et al.*	704	257	
	13U	7,676,365	03/09/2010	Hwang *et al.*	704	240	
	13V	7,676,369	03/09/2010	Fujimoto *et al.*	704	270	
	13W	7,693,720	04/06/2010	Kennewick *et al.*	704	275	

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U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	14A	7,729,918	06/01/2010	Walker *et al.*	704	275	
	14B	7,788,084	08/31/2010	Brun *et al.*	704	7	
	14C	7,809,570	10/05/2010	Kennewick *et al.*	704	257	
	14D	7,818,176	10/19/2010	Freeman *et al.*	704	270	
	14E	7,831,433	11/09/2010	Belvin *et al.*	704	275	
	14F	7,873,523	01/18/2011	Potter *et al.*	704	275	
	14G	7,902,969	03/08/2011	Obradovich	340	439	
	14H	7,917,367	03/29/2011	Di Cristo *et al.*	704	270.1	
	14I	7,949,529	05/24/2011	Weider *et al.*	704	270	
	14J	7,949,537	05/24/2011	Walker *et al.*	704	275	
	14K	7,974,875	07/05/2011	Quilici *et al.*	705	14.4	
	14L	7,983,917	07/19/2011	Kennewick *et al.*	704	257	
	14M	8,015,006	09/06/2011	Kennewick *et al.*	704	236	
	14N	8,060,367	11/15/2011	Keaveney	704	247	
	14O	8,069,046	11/29/2011	Kennewick *et al.*	704	257	
	14P	8,073,681	12/06/2011	Baldwin *et al.*	704	9	
	14Q	8,086,463	12/27/2011	Ativanichayaphong *et al.*	704	275	
	14R	8,112,275	02/07/2012	Kennewick *et al.*	704	240	
	14S	8,140,327	03/20/2012	Kennewick *et al.*	704	226	
	14T	8,140,335	03/20/2012	Kennewick *et al.*	704	257	
	14U	8,145,489	03/27/2012	Freeman *et al.*	704	257	
	14V	8,150,694	04/03/2012	Kennewick *et al.*	704	257	
	14W	8,155,962	04/10/2012	Kennewick *et al.*	704	257	

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*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	15A	2001/0041980	11/15/2001	Howard *et al.*	704	270	
	15B	2001/0049601	12/06/2001	Kroeker *et al.*	704	254	
	15C	2002/0015500	02/07/2002	Belt *et al.*	381	66	
	15D	2002/0022927	02/21/2002	Lemelson *et al.*	701	301	
	15E	2002/0035501	03/21/2002	Handel *et al.*	705	10	
	15F	2002/0049805	04/25/2002	Yamada *et al.*	709	202	
	15G	2002/0065568	05/30/2002	Silfvast *et al.*	700	94	
	15H	2002/0069059	06/06/2002	Smith	704	257	
	15I	2002/0069071	06/06/2002	Knockeart et al.	704	275	
	15J	2002/0082911	06/27/2002	Dunn *et al.*	705	14	
	15K	2002/0087525	07/04/2002	Abbott *et al.*	707	3	
	15L	2002/0120609	08/29/2002	Lang *et al.*	707	1	
	15M	2002/0124050	09/05/2002	Middeljans	709	203	
	15N	2002/0133402	09/19/2002	Faber *et al.*	705	14	
	15O	2002/0138248	09/26/2002	Corston-Oliver *et al.*	704	1	
	15P	2002/0143535	10/03/2002	Kist *et al.*	704	251	
	15Q	2002/0161646	10/31/2002	Gailey *et al.*	705	14	
	15R	2002/0188602	12/12/2002	Stubler *et al.*	707	3	
	15S	2002/0198714	12/26/2002	Zhou	704	252	
	15T	2003/0014261	01/16/2003	Kageyama	704	275	
	15U	2003/0016835	01/23/2003	Elko *et al.*	381	92	
	15V	2003/0046346	03/06/2003	Mumick *et al.*	709	205	
	15W	2003/0064709	04/03/2003	Gailey *et al.*	455	412	

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U.S. PATENT DOCUMENTS

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	16A	2003/0088421	05/08/2003	Maes *et al.*	704	270.1	
	16B	2003/0097249	05/22/2003	Walker *et al.*	704	1	
	16C	2003/0110037	06/12/2003	Walker *et al.*	704	257	
	16D	2003/0112267	06/19/2003	Belrose	345	728	
	16E	2003/0115062	06/19/2003	Walker *et al.*	704	258	
	16F	2003/0120493	06/26/2003	Gupta	704	270.1	
	16G	2003/0135488	07/17/2003	Amir *et al.*	707	3	
	16H	2003/0144846	07/31/2003	Denenberg *et al.*	704	277	
	16I	2003/0158731	08/21/2003	Falcon *et al.*	704	231	
	16J	2003/0182132	09/25/2003	Niemoeller	704	275	
	16K	2003/0204492	10/30/2003	Wolf *et al.*	707	3	
	16L	2003/0206640	11/06/2003	Malvar *et al.*	381	93	
	16M	2003/0212550	11/13/2003	Ubale	704	215	
	16N	2003/0236664	12/25/2003	Sharma	704	251	
	16O	2004/0006475	01/08/2004	Ehlen *et al.*	704	270.1	
	16P	2004/0025115	02/05/2004	Sienel *et al.*	715	513	
	16Q	2004/0044516	03/04/2004	Kennewick *et al.*	704	5	
	16R	2004/0098245	05/20/2004	Walker *et al.*	704	1	
	16S	2004/0166832	08/26/2004	Portman *et al.*	455	412.1	
	16T	2004/0167771	08/26/2004	Duan *et al.*	704	10	
	16U	2004/0193408	09/30/2004	Hunt	704	209	
	16V	2004/0193420	09/30/2004	Kennewick *et al.*	704	257	
	16W	2004/0199375	10/07/2004	Ehsani *et al.*	704	4	

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	17A	2004/0205671	10/14/2004	Sukehiro *et al.*	715	532	
	17B	2004/0243417	12/02/2004	Pitts, III *et al.*	704	276	
	17C	2005/0015256	01/20/2005	Kargman	704	272	
	17D	2005/0021334	01/27/2005	Iwahashi	704	240	
	17E	2005/0021826	01/27/2005	Kumar	709	232	
	17F	2005/0033574	02/10/2005	Kim *et al.*	704	251	
	17G	2005/0043940	02/24/2005	Elder	704	9	
	17H	2005/0114116	05/26/2005	Fiedler	704	201	
	17I	2005/0137850	06/23/2005	Odell	704	4	
	17J	2005/0137877	06/23/2005	Oesterling *et al.*	704	275	
	17K	2005/0143994	06/30/2005	Mori *et al.*	704	235	
	17L	2005/0246174	11/03/2005	DeGolia	704	270	
	17M	2006/0206310	09/14/2006	Ravikumar *et al.*	704	9	
	17N	2007/0033005	02/08/2007	Cristo *et al.*	704	9	
	17O	2007/0033020	02/08/2007	(Kelleher) Francois *et al.*	704	226	
	17P	2007/0038436	02/15/2007	Cristo *et al.*	704	9	
	17Q	2007/0043574	02/22/2007	Coffman *et al.*	704	275	
	17R	2007/0050191	03/01/2007	Weider *et al.*	704	275	
	17S	2007/0055525	03/08/2007	Kennewick *et al.*	704	257	
	17T	2007/0073544	03/29/2007	Millett *et al.*	704	277	
	17U	2007/0078708	04/05/2007	Yu *et al.*	705	14	
	17V	2007/0078709	04/05/2007	Rajaram	705	14	
	17W	2007/0118357	05/24/2007	Kasravi *et al.*	704	10	

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	18A	2007/0162296	07/12/2007	Altberg *et al.*	705	1	
	18B	2007/0179778	08/02/2007	Gong *et al.*	704	9	
	18C	2007/0186165	08/09/2007	Maislos *et al.*	715	728	
	18D	2007/0214182	09/13/2007	Rosenberg	707	104.1	
	18E	2007/0250901	10/25/2007	McIntire *et al.*	725	146	
	18F	2007/0265850	11/15/2007	Kennewick *et al.*	704	257	
	18G	2007/0299824	12/27/2007	Pan *et al.*	707	3	
	18H	2008/0065386	03/13/2008	Cross *et al.*	704	270	
	18I	2008/0091406	04/17/2008	Baldwin *et al.*	704	4	
	18J	2008/0103761	05/01/2008	Printz *et al.*	704	9	
	18K	2008/0109285	05/08/2008	Reuther *et al.*	705	7	
	18L	2008/0115163	05/15/2008	Gilboa *et al.*	725	34	
	18M	2008/0133215	06/05/2008	Sarukkai	704	2	
	18N	2008/0140385	06/12/2008	Mahajan *et al.*	704	9	
	18O	2008/0177530	07/24/2008	Cross *et al.*	704	4	
	18P	2008/0189110	08/07/2008	Freeman *et al.*	704	251	
	18Q	2008/0235023	09/25/2008	Kennewick *et al.*	704	257	
	18R	2008/0235027	09/25/2008	Cross	704	270.1	
	18S	2008/0319751	12/25/2008	Kennewick *et al.*	704	257	
	18T	2009/0067599	03/12/2009	Agarwal *et al.*	379	114.21	
	18U	2009/0117885	05/07/2009	Roth	455	414.3	
	18V	2009/0144271	06/04/2009	Richardson *et al.*	707	5	
	18W	2009/0150156	06/11/2009	Kennewick *et al.*	704	257	

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	19A	2009/0171664	07/02/2009	Kennewick *et al.*	704	257	
	19B	2009/0216540	08/27/2009	Tessel *et al.*	704	275	
	19C	2009/0271194	10/29/2009	Davis *et al.*	704	235	
	19D	2009/0299745	12/03/2009	Kennewick *et al.*	704	257	
	19E	2010/0023320	01/28/2010	Di Cristo *et al.*	704	9	
	19F	2010/0049501	02/25/2010	Kennewick *et al.*	704	9	
	19G	2010/0049514	02/25/2010	Kennewick *et al.*	704	233	
	19H	2010/0057443	03/04/2010	Di Cristo *et al.*	704	9	
	19I	2010/0063880	03/11/2010	Atsmon *et al.*	705	14.53	
	19J	2010/0185512	07/22/2010	Borger *et al.*	705	14.49	
	19K	2010/0145700	06/10/2010	Kennewick *et al.*	704	257	
	19L	2010/0204986	08/12/2010	Kennewick *et al.*	704	226	
	19M	2010/0204994	08/12/2010	Kennewick *et al.*	704	257	
	19N	2010/0217604	08/26/2010	Baldwin *et al.*	704	275	
	19O	2010/0286985	11/11/2010	Kennewick *et al.*	704	257	
	19P	2010/0299142	11/25/2010	Freeman *et al.*	704	9	
	19Q	2011/0112827	05/12/2011	Kennewick *et al.*	704	9	
	19R	2011/0112921	05/12/2011	Kennewick *et al.*	705	26.1	
	19S	2011/0131036	06/02/2011	Di Cristo *et al.*	704	9	
	19T	2011/0131045	06/02/2011	Cristo *et al.*	704	249	
	19U	2011/0231182	09/22/2011	Weider *et al.*	704	9	
	19V	2011/0231188	09/22/2011	Kennewick *et al.*	704	236	
	19W	2012/0022857	01/26/2012	Baldwin *et al.*	704	9	

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	20A	2012/0101809	04/26/2012	Kennewick *et al.*	704	9	
	20B	2012/0101810	04/26/2012	Kennewick *et al.*	704	9	
	20C	2012/0109753	05/03/2012	Kennewick *et al.*	705	14.58	

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Application Number:	13488299
International Application Number:	
Confirmation Number:	7852
Title of Invention:	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS
First Named Inventor/Applicant Name:	CHRIS WEIDER
Customer Number:	909
Filer:	Chen Li/Jennifer Hake
Filer Authorized By:	Chen Li
Attorney Docket Number:	090611-0393260
Receipt Date:	04-JUN-2012
Filing Date:	
Time Stamp:	19:59:57
Application Type:	Utility under 35 USC 111(a)

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		090611_0393260_Application.pdf	4731535 4f9ec5ab44c987b8c71a2c02f2efc5369fee8653	yes	105

	Multipart Description/PDF files in .zip description		
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	Application Data Sheet	2	3
	Specification	4	62
	Claims	63	69
	Abstract	70	70
	Drawings-only black and white line drawings	71	78
	Oath or Declaration filed	79	83
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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

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If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/488,299	06/04/2012	CHRIS WEIDER	090611-0408808

CONFIRMATION NO. 7852

909
Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

FORMALITIES LETTER

OC000000054812076

Date Mailed: 06/15/2012

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
  *Applicant must submit $**95** to complete the basic filing fee for a small entity.*

The application is informal since it does not comply with the regulations for the reason(s) indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
  - The drawings must be reasonably free from erasures and must be free from alterations, overwriting, interlineations, folds, and copy marks. See Figure(s) 1,4.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Additional claim fees of $**360** as a small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.
- A surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of $**65** for a small entity in compliance with 37 CFR 1.27, must be submitted.

SUMMARY OF FEES DUE:

Total fee(s) required within **TWO MONTHS** from the date of this Notice is $**955** for a small entity

- $**95** Statutory basic filing fee.
- $**65** Surcharge.
- The application search fee has not been paid. Applicant must submit $**310** to complete the search fee.
- The application examination fee has not been paid. Applicant must submit $**125** to complete the examination fee for a small entity in compliance with 37 CFR 1.27.
- Total additional claim fee(s) for this application is $**360**
  - $**360** for **12** total claims over 20.

Replies should be mailed to:

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Commissioner for Patents
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Alexandria VA 22313-1450

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/tnguyen/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/488,299

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	95		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	310		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	125		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	32 minus 20 =	* 12	x 30 =	360	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*	x 125 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	890		TOTAL	

APPLICATION AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)	OR	RATE($)	ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/488,299	06/04/2012	2626	0.00	090611-0408808	32	3

CONFIRMATION NO. 7852

909
Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

FILING RECEIPT

OC000000054812075

Date Mailed: 06/15/2012

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

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Assignment For Published Patent Application

VoiceBox Technologies, Inc., Kirkland, WA

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 13/084,197 04/11/2011 PAT 8195468 *
which is a DIV of 11/212,693 08/29/2005 PAT 7949529
(*)Data provided by applicant is not consistent with PTO records.

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 06/12/2012

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/488,299**

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****
Title

MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

Preliminary Class

704

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE PATENT APPLICATION OF:	Chris WEIDER *et al.*
SERIAL NO.:	13/488,299
FILING DATE:	June 4, 2012
ATTORNEY DOCKET NO.:	090611-0408808
CONFIRMATION NO.:	7852
EXAMINER:	Unassigned
ART UNIT:	Unassigned
FOR:	Mobile Systems and Methods of Supporting Natural Language Human-Machine Interactions

Preliminary Amendment

Mail Stop Amendments
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Madam:

Please enter the following amendments and consider the following remarks in connection with the above-identified application.

Amendments to the Specification begin on page 2.

Amendments to the Claims begin on page 5.

Remarks/Arguments begin on page 9.

Applicants believe that no extensions of time or other fees are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned for under 37 C.F.R. § 1.136(a), and any fees required therefore (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account No. 033975 (**Ref. No. 090611-0408808**).

AMENDMENT

Amendments to the Specification: (identifying insertions and ~~deletions~~).

- Please amend paragraph **[001]**, which begins on page 1, as follows:

[001] This application is a continuation of U.S. Patent Application Serial No. 13/084,197, filed on April 11, 2011, which is a divisional of U.S. Patent Application Serial No. 11/212,693, entitled "Mobile Systems and Methods of Supporting Natural Language Human-Machine Interactions," filed August 29, 2005, which issued as U.S. Patent No. 7,949,529 on May 24, 2011, the contents of which are hereby incorporated by reference in their entirety.

- Please amend paragraph **[003]**, which begins on page 1, as follows:

[003] Telematic systems are systems that bring human-computer interfaces to mobile environments. Conventional computer interfaces use some combination of keyboards, keypads, point and click techniques and touch screen displays. These conventional interface techniques are generally not suitable for [[a]] mobile environments, due at least in part to the speed of interaction and the inherent danger and distraction. Therefore, speech interfaces are being adopted in many telematic applications.

- Please amend paragraph **[028]**, which begins on page 8, as follows:

[028] According to another aspect of the invention, the system may process and respond to questions, requests and/or commands. Keywords or context may be used to determine whether the received utterance and/or textual message includes a request or command. For example, utterances may include aspects of questions, requests and/or commands. For example, a user may utter "tune in my favorite radio station." A request is processed to determine the name, the channel, and time for the ~~users~~ user's favorite radio station. If the programming on that station is of a type the user generally does not listen to, the system can suggest using an alterative option, such as listening to

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Page 115 of 281

a CD more likely to please the user. A command must be executed to set a tune the radio station.

- Please amend paragraph **[037]**, which begins on page 11, as follows:

[037] In order to make the responses to user's questions and commands seem more natural, the system may employ one or more dynamically invokeable personalities and/or emotional models. Personalities and emotional models have specific characteristics that simulate the behavioral characteristics of real humans. Examples of these characteristics include[[,]] sympathy, irritation, and helpfulness and associated emotions. The personality also randomizes aspects of responses, just as a real human would do. This behavior includes randomization of terms used and the order of presentation of information. Characteristics of the personality and/or emotions are invoked using probabilistic or fuzzy set decision and matching methods and using criteria, including the context for the question, the history of the user's interaction, user preferences, information sources available, and responses obtained from the sources.

- Please amend paragraph **[0136]**, which begins on page 53, as follows:

[0136] In general, the question that is asked by the system 90 may be phrased to indicate the context of the question including all criteria or parameters. For example, the question can be in the form of: "Did I understand that you want such-and-such?" If the user confirms that the question is correct the system proceeds to produce a response. Otherwise, the 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.

- Please amend paragraph **[0144]**, which begins on page 55, as follows:

[0144] The local information sources can be stored in one or more system databases 102 or can be on any local data storage such as a set of CDs or DVDs in a player or other local data storage. In other cases, local information can be obtained from vehicle

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Page 116 of 281

system settings or measurement devices. Network information sources can be connected to, the control and device interfaces 30, the data interfaces 26, the Internet 42 or other network and accessed through a series of plug-ins or adaptors, known [[a]] as pluggable sources, in the network interface 116. The pluggable sources are capable of executing the protocols and interpreting the data formats for the data sources of interest. The pluggable source provides information scrapping forms and procedures for each source to the domain agents 156. If a new type of data source is to be used a new plug-in or adaptor can be added to the appropriate interface.

Amendments to the Claims: Please replace all prior versions and listings of claims with the following listing of claims.

LISTING OF CLAIMS

1-32. **(Cancelled)**

33. **(New)** A device for processing natural language inputs, comprising one or more processors configured to:

receive a multi-modal natural language input from a user, the multi-modal natural language input including a natural language utterance and a non-speech input;

generate a non-speech transcription from the non-speech input;

identify the user who provided the multi-modal natural language input;

generate a speech-based transcription based on a cognitive model associated with the user, wherein the cognitive model includes information on one or more prior interactions between the user and the device;

generate a merged transcription from the speech-based transcription and the non-speech transcription;

identify an entry in a context stack that matches information in the merged transcription;

identify a domain agent associated with the entry in the context stack;

determine a request based on the merged transcription; and

communicate the request to the domain agent, wherein the domain agent is configured to generate a response to the user.

34. **(New)** The device of claim 33, wherein the response includes an aggregation of content gathered when the identified domain agent processes the request.

35. **(New)** The device of claim 33, wherein the multi-modal natural language input is a first multi-modal natural language input and is received during a first session, the one

or more processors further configured to receive a second multi-modal natural language input from another user during the first session.

36. (**New**) The device of claim 33, wherein the one or more processors are configured to support interactions with a plurality of users during an interleaved session.

37. (**New**) The device of claim 33, wherein the cognitive model is a first cognitive model, wherein the one or more processors are configured to generate the speech-based transcription based on a second cognitive model that includes information on one or more interactions between the device and a plurality of users of the device.

38. (**New**) The device of claim 37, wherein the one or more processors are configured to generate the speech-based transcription further based on an environmental model that has information indicative of an environment of the user.

39. (**New**) The device of claim 38, wherein the environmental model has information indicative of how noisy the environment of the user is.

40. (**New**) The device of claim 33, wherein the one or more processors are configured to receive one or more subsequent multi-modal natural language inputs, the follow-up multi-modal inputs including at least one of a follow-up natural language utterance or a follow-up non-speech input.

41. (**New**) The device of claim 33, wherein the identified domain agent is configured to update the context stack in response to processing the request.

42. (**New**) The device of claim 33, wherein the one or more processors are configured to synchronize the context stack with a context stack of another device.

43. (**New**) The device of claim 42, wherein the one or more processors are configured to synchronize the cognitive model with a cognitive model of another device.

44. (**New**) A method for processing natural language inputs, comprising:

receiving, by one or more processors, a multi-modal natural language input from a user, the multi-modal natural language input including a natural language utterance and a non-speech input;

generating, by the one or more processors, a non-speech transcription from the non-speech input;

identifying, by the one or more processors, the user who provided the multi-modal natural language input;

generating, by the one or more processors, a speech-based transcription based on a cognitive model associated with the user, wherein the cognitive model includes information on one or more prior interactions between the user and the device;

generating, by the one or more processors, a merged transcription from the speech-based transcription and the non-speech transcription;

identifying, by the one or more processors, an entry in a context stack that matches information in the merged transcription;

identifying, by the one or more processors, a domain agent associated with the entry in the context stack;

determining, by the one or more processors, a request based on the merged transcription; and

communicating, by the one or more processors, the request to the domain agent, wherein the domain agent is configured to generate a response to the user.

45. (**New**) The method of claim 44, wherein the cognitive model is a first cognitive model, and wherein the generating the speech-based transcription is based on a second

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cognitive model that includes information on one or more interactions between the device and a plurality of users of the device.

46. (**New**) A device for processing natural language inputs, comprising one or more processors configured to:

receive a natural language utterance from a user;

identify the user who provided the natural language utterance;

generate a speech-based transcription based on a personal cognitive model associated with the user and a general cognitive model associated with the user, wherein the personal cognitive model includes information on one or more prior interactions between the device and the user, and wherein the general cognitive model includes information on one or more prior interactions between the device and a plurality of users;

identify an entry indicative of a context of the natural language utterance;

identify a domain agent associated with the entry in the stack;

determine a request based on the speech-based transcription; and

communicate the request to the domain agent, wherein the domain agent is configured to generate a response to the user.

47. (**New**) The device of claim 46, wherein the one or more processors are configured to identify the entry by accessing a context stack that has a plurality of entries that are each indicative of context and identifying one of the entries that matches information in the speech-based transcription.

48. (**New**) The device of claim 47, wherein the one or more processors are configured to generate the speech-based transcription further based on an environmental model, wherein the environmental model includes information indicative of how noisy the environment of the user is.

REMARKS

As a preliminary matter, please note that a Supplemental Application Data Sheet has been filed herewith to make information in the Application Data Sheet consistent with information in the Declaration filed June 4, 2012.

Upon entry of the foregoing Amendment, claims 1-32 have been cancelled without prejudice or disclaimer. New claims 33-48 have been added. Thus, claims 33-48 are pending. Support for the amendments may be found throughout the as-filed Specification. The Specification has been amended to update the status associated with the cross-referenced parent application and correct various minor typographical errors. Further, please note that replacement sheets for Figures 1 and 4 have been submitted with the Response to Notice to File Missing Parts ("Response"), filed on even date herewith, in response to the Notice to File Missing Parts mailed June 15, 2012 ("Notice"). Without addressing the propriety of the allegations in the Notice, Applicants submit that the drawings in the replacements sheets are reasonably free from erasures and are free from alterations, overwriting, interlineations, folds, and copy marks.

In view of the foregoing Amendment, Applicants respectfully request that the Examiner allow all the pending claims.

CONCLUSION

Applicants respectfully submit that the application is in condition for allowance and respectfully request notice to that effect. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Respectfully submitted,

Dated: July 13, 2012

By: /Chen Li/
Chen Li
Registration No.: 67,448
Attorney for Applicant(s)

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Attorney Docket No. 090611-0408808 *PATENT*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: WEIDER, CHRIS, et al.

Application No.:	13/488,299	Confirmation No.:	7852
Filed:	June 4, 2012	Group No.:	Unknown
		Examiner:	Unknown

For: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUPPLEMENTAL APPLICATION DATA SHEET
37 CFR § 1.76

BIBLIOGRAPHIC DATA

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Meta Platforms, Inc. - Exhibit 1002
Page 124 of 281

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2. Correspondence information

Correspondence for this application should be addressed as follows:
Customer No.: 00909

3. Application information

Title of the Invention: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS
Attorney Docket Number: 090611-0408808 Small Entity Status Claimed ☒
Total number of drawing sheets: 8
Type of application: Utility

4. Representative information.

The following have a power of attorney or authorization of agent in this application:

Customer No.: 00909

5. Domestic Priority information.

Domestic priority for this application is claimed as follows:

35 U.S.C. § 120

Application No.	Filed	Status	Relationship
This Application	June 4, 2012	Pending	Continuation of
13/084,197	April 11, 2011	Allowed	Divisional of
11/212,693	August 29, 2005	Granted	Parent

6. Assignee information

The assignee of this application is

VoiceBox Technologies, Inc.
10505 NE 38th Place, Building 9
Kirkland, WA 98033

Date: July 13, 2012

/Chen Li/

Chen Li
Registration No. 67,448
PILLSBURY WINTHROP SHAW PITTMAN LLP
P.O. Box 10500
McLean, VA 22102
Direct: (703) 770-7898
Facsimile: (703) 770-7901
Customer No. 00909

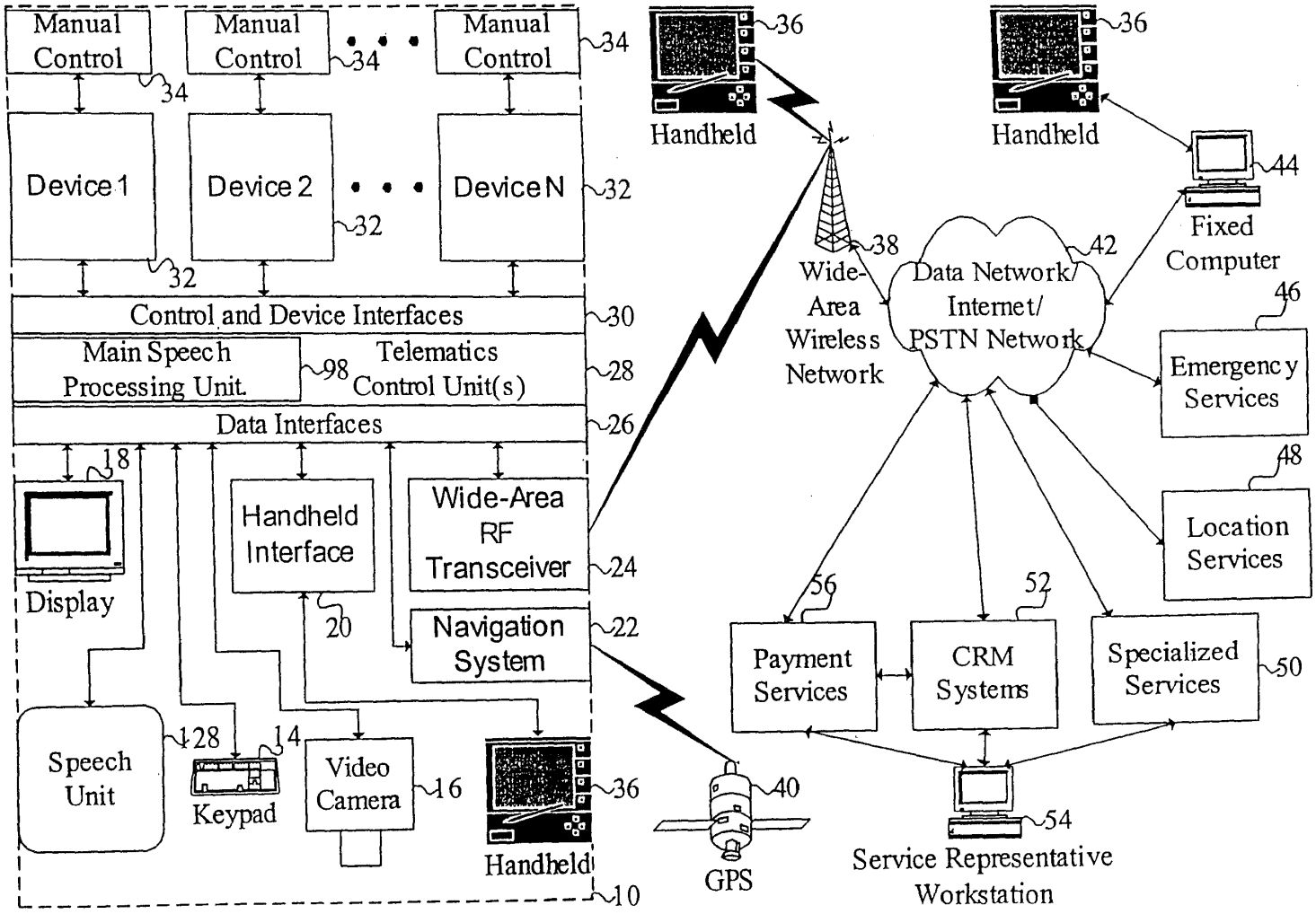


Figure 1

REPLACEMENT SHEET 13/488,299 ART UNIT: 2626

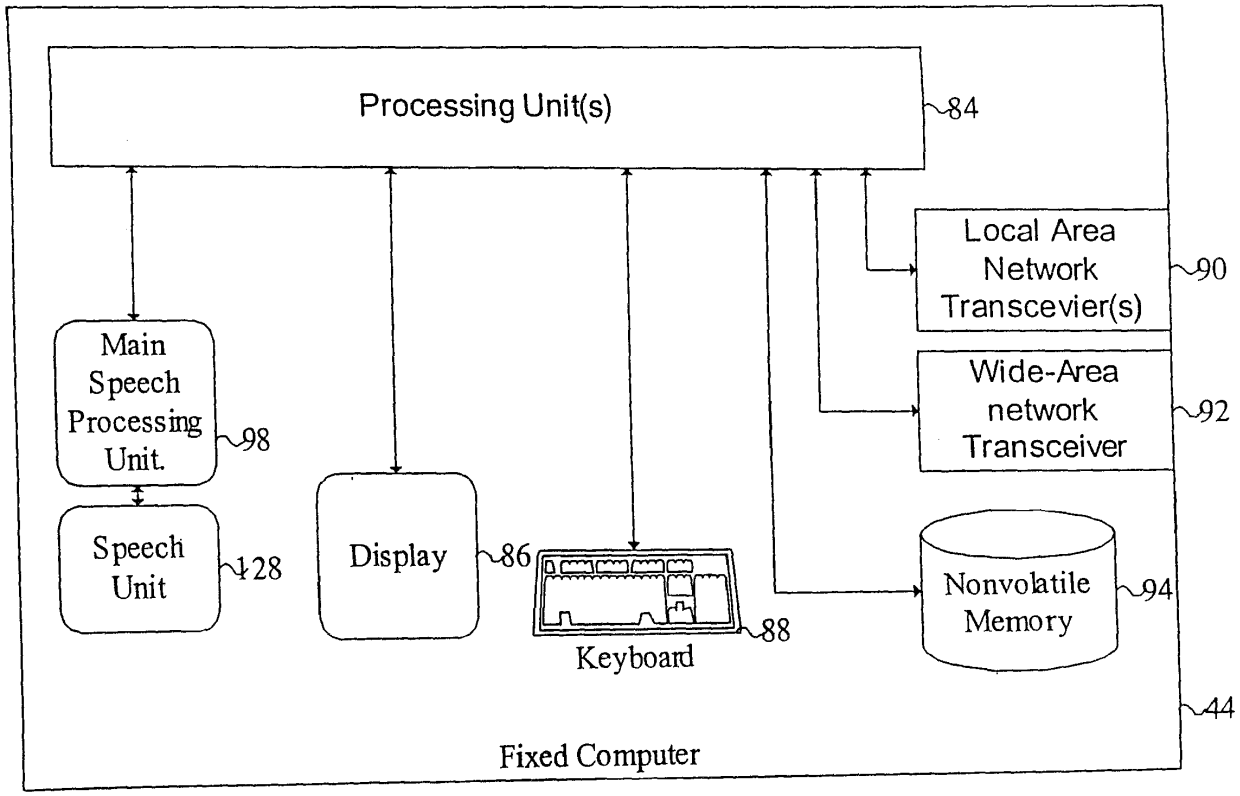


Figure 4

REPLACEMENT SHEET 13/488,299 ART UNIT: 2626

Attorney Docket No.: 090611-0408808

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Chris WEIDER, et al.

Application No.:	13/488,299	Confirmation No.:	7852
Filed:	June 4, 2012	Group No.:	Unassigned
		Examiner:	Unassigned

For: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

RESPONSE TO NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Notice to File Missing Parts of Nonprovisional Application mailed June 15, 2012, Applicants herewith submit the following:

- ☒ $95 Basic Filing Fee for Small Entity,
- ☒ $125 Examination Fee,
- ☒ $310 Search Fee,
- ☒ $65 Surcharge,
- ☒ Two (2) Replacement Sheets of Drawings: Figures 1 and 4; and
- ☒ Copy of Notice to File Missing Parts of Nonprovisional Application mailed June 15, 2012.

Please charge any fees associated with the submission of this paper to Deposit Account Number 33975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

By /Chen Li/

Chen Li
Registration No. 67,448
Telephone: 703-770-7898
Facsimile: 703-770-7901

Date: July 13, 2012
PILLSBURY WINTHROP SHAW PITTMAN LLP
P.O. Box 10500
McLean, VA 22102
Customer No.: 00909

403571637v1

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/488,299	06/04/2012	CHRIS WEIDER	090611-0408808

CONFIRMATION NO. 7852

909
Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

FORMALITIES LETTER



Date Mailed: 06/15/2012

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
  *Applicant must submit $**95** to complete the basic filing fee for a small entity.*

The application is informal since it does not comply with the regulations for the reason(s) indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
  - The drawings must be reasonably free from erasures and must be free from alterations, overwriting, interlineations, folds, and copy marks. See Figure(s) 1,4.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Additional claim fees of $**360** as a small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.
- A surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of $**65** for a small entity in compliance with 37 CFR 1.27, must be submitted.

SUMMARY OF FEES DUE:

Total fee(s) required within **TWO MONTHS** from the date of this Notice is $**955** for a small entity

- $**95** Statutory basic filing fee.
- $**65** Surcharge.
- The application search fee has not been paid. Applicant must submit $**310** to complete the search fee.
- The application examination fee has not been paid. Applicant must submit $**125** to complete the examination fee for a small entity in compliance with 37 CFR 1.27.
- Total additional claim fee(s) for this application is $**360**
  - $**360** for **12** total claims over 20.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/tnguyen/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Meta Platforms, Inc. - Exhibit 1002
Page 132 of 281

Electronic Patent Application Fee Transmittal

Application Number:	13488299
Filing Date:	04-Jun-2012
Title of Invention:	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS
First Named Inventor/Applicant Name:	CHRIS WEIDER
Filer:	Chen Li/Jennifer Hake
Attorney Docket Number:	090611-0408808

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	95	95
Utility Search Fee	2111	1	310	310
Utility Examination Fee	2311	1	125	125
Pages:				
Claims:				
Miscellaneous-Filing:				
Late filing fee for oath or declaration	2051	1	65	65
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		595

Electronic Acknowledgement Receipt	
EFS ID:	13253266
Application Number:	13488299
International Application Number:	
Confirmation Number:	7852
Title of Invention:	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS
First Named Inventor/Applicant Name:	CHRIS WEIDER
Customer Number:	909
Filer:	Chen Li/Jennifer Hake
Filer Authorized By:	Chen Li
Attorney Docket Number:	090611-0408808
Receipt Date:	13-JUL-2012
Filing Date:	04-JUN-2012
Time Stamp:	20:03:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$595
RAM confirmation Number	6286
Deposit Account	033975
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		090611_0408808_Preliminary_Amendment.pdf	458588 ec8eaaf58c5a5d0bafb480fa4193ce1fca75c49e	yes	10

Multipart Description/PDF files in .zip description

Document Description	Start	End
Preliminary Amendment	1	1
Specification	2	4
Claims	5	8
Applicant Arguments/Remarks Made in an Amendment	9	10

Warnings:

Information:

2	Application Data Sheet	090611_0408808_Supplemental_ADS.pdf	114443 30e437e2fadc265c51782b760843d676e08521fe	no	3

Warnings:

Information:

This is not an USPTO supplied ADS fillable form

3	Drawings-only black and white line drawings	Replacement_Drawings2.pdf	1782065 564762d1cbf79e001d7a7ccd695bd8a04def7ae3	no	2

Warnings:

Information:

4	Applicant Response to Pre-Exam Formalities Notice	090611_0408808_Response_Missing_Parts.pdf	170683 b318ab145c2fc28e257e8b7d55059c359096c80b	no	4

Warnings:

Information:

5	Fee Worksheet (SB06)	fee-info.pdf	37039 8bc78e1fb264243935034c9ca62f33773a61ce34	no	2

Warnings:

Information:

Total Files Size (in bytes):	2562818

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/488,299	Filing Date 06/04/2012	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT		(Column 1)		(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
	07/13/2012	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 16	Minus	** 20	= 0	X $30 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $125 =	0	OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT		(Column 1)		(Column 2)	(Column 3)	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA					
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/KIMBERLY PANNELL/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/488,299

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	95		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	310		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	125		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	16 minus 20 =	*	x 30 =	0.00	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*	x 125 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	530		TOTAL	

APPLICATION AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/488,299	06/04/2012	2626	595	090611-0408808	16	3

CONFIRMATION NO. 7852

909
Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

UPDATED FILING RECEIPT

OC000000055480453

Date Mailed: 07/23/2012

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

CHRIS WEIDER, Everett, WA;
Richard Kennewick, Woodinville, WA;
Mike Kennewick, Bellevue, WA;
Philippe Di Cristo, Bellevue, WA;
Robert A. Kennewick, Seattle, WA;
Samuel Menaker, Bellevue, WA;
Lynn Elise Armstrong, Woodinville, WA;

Assignment For Published Patent Application

VoiceBox Technologies, Inc., Kirkland, WA

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 13/084,197 04/11/2011 PAT 8195468 *
which is a DIV of 11/212,693 08/29/2005 PAT 7949529
(*)Data provided by applicant is not consistent with PTO records.

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 06/12/2012

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/488,299**

Projected Publication Date: 11/01/2012

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****
Title

MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

Preliminary Class

704

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/488,299	06/04/2012	CHRIS WEIDER	090611-0408808

CONFIRMATION NO. 7852

909
Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

PUBLICATION NOTICE

OC000000057386669

Title:MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

Publication No.US-2012-0278073-A1
Publication Date:11/01/2012

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/488,299	06/04/2012	CHRIS WEIDER	090611-0408808	7852

909 7590 11/28/2012

Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

EXAMINER	
YEN, ERIC L	
ART UNIT	PAPER NUMBER
2658	

NOTIFICATION DATE	DELIVERY MODE
11/28/2012	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket_ip@pillsburylaw.com
margaret.drosos@pillsburylaw.com

Office Action Summary	Application No.	Applicant(s)	
	13/488,299	WEIDER ET AL.	
	Examiner	Art Unit	
	ERIC YEN	2658	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *33-46 and 48* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *33-46 and 48* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *04 June 2012* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

3) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

Applicant-Initiated Interview Summary	Application No.	Applicant(s)	
	13/488,299	WEIDER ET AL.	
	Examiner	Art Unit	
	ERIC YEN	2658	

All participants (applicant, applicant's representative, PTO personnel):

(1) *ERIC YEN*. (3)_____.

(2) *CHEN LI*. (4)_____.

Date of Interview: *15 November 2012*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☐ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☒103 ☐Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *33,44 and 46*.

Identification of prior art discussed: _____.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Proposed amendment to amend the allowable limitation of claim 47 into claims 33, 44, and 46 were authorized and issuance of a Non-Final Office Action including an Examiner's Amendment and Double Patenting rejection while waiting to receive a Terminal Disclaimer was also accepted..

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/Eric Yen/ Primary Examiner, Art Unit 2658	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

———

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Chen Li on 11/15/12.

Amend the claims as follows:

1-32. (**Cancelled**)

33. (**Currently Amended**) A device for processing natural language inputs, comprising one or more processors configured to:

receive a multi-modal natural language input from a user, the multi-modal natural language input including a natural language utterance and a non-speech input;

generate a non-speech transcription from the non-speech input;

identify the user who provided the multi-modal natural language input;

generate a speech-based transcription based on a cognitive model associated with the user, wherein the cognitive model includes information on one or more prior interactions between the user and the device;

generate a merged transcription from the speech-based transcription and the non-speech transcription;

identify , from among a plurality of entries that are in a context stack and that are each indicative of context, an entry in [[a]] the context stack that matches information in the merged transcription;

identify a domain agent associated with the entry in the context stack;

determine a request based on the merged transcription; and

communicate the request to the domain agent, wherein the domain agent is configured to generate a response to the user.

34. (**Previously Presented**) The device of claim 33, wherein the response includes an aggregation of content gathered when the identified domain agent processes the request.

35. (**Previously Presented**) The device of claim 33, wherein the multi-modal natural language input is a first multi-modal natural language input and is received during a first session, the one or more processors further configured to receive a second multi-modal natural language input from another user during the first session.

36. (**Previously Presented**) The device of claim 33, wherein the one or more processors are configured to support interactions with a plurality of users during an interleaved session.

37. (**Previously Presented**) The device of claim 33, wherein the cognitive model is a first cognitive model, wherein the one or more processors are configured to generate the speech-based transcription based on a second cognitive model that includes information on one or more interactions between the device and a plurality of users of the device.

38. (**Previously Presented**) The device of claim 37, wherein the one or more processors are configured to generate the speech-based transcription further based on an environmental model that has information indicative of an environment of the user.

39. (**Previously Presented**) The device of claim 38, wherein the environmental model has information indicative of how noisy the environment of the user is.

40. (**Previously Presented**) The device of claim 33, wherein the one or more processors are configured to receive one or more subsequent multi-modal natural language inputs, the follow-

up multi-modal inputs including at least one of a follow-up natural language utterance or a follow-up non-speech input.

41. (**Previously Presented**) The device of claim 33, wherein the identified domain agent is configured to update the context stack in response to processing the request.

42. (**Previously Presented**) The device of claim 33, wherein the one or more processors are configured to synchronize the context stack with a context stack of another device.

43. (**Previously Presented**) The device of claim 42, wherein the one or more processors are configured to synchronize the cognitive model with a cognitive model of another device.

44. (**Currently Amended**) A method for processing natural language inputs, comprising:

receiving, by one or more processors, a multi-modal natural language input from a user, the multi-modal natural language input including a natural language utterance and a non-speech input;

generating, by the one or more processors, a non-speech transcription from the non-speech input;

identifying, by the one or more processors, the user who provided the multi-modal natural language input;

generating, by the one or more processors, a speech-based transcription based on a cognitive model associated with the user, wherein the cognitive model includes information on one or more prior interactions between the user and the device;

generating, by the one or more processors, a merged transcription from the speech-based transcription and the non-speech transcription;

identifying, by the one or more processors, an entry in a context stack , from among a plurality of entries that are in the context stack and that are each indicative of context, wherein the identified entry ~~that~~ matches information in the merged transcription;

identifying, by the one or more processors, a domain agent associated with the entry in the context stack;

determining, by the one or more processors, a request based on the merged transcription; and

communicating, by the one or more processors, the request to the domain agent, wherein the domain agent is configured to generate a response to the user.

45. (**Previously Presented**) The method of claim 44, wherein the cognitive model is a first cognitive model, and wherein the generating the speech-based transcription is based on a second cognitive model that includes information on one or more interactions between the device and a plurality of users of the device.

46. (**Currently Amended**) A device for processing natural language inputs, comprising one or more processors configured to:

receive a natural language utterance from a user;

identify the user who provided the natural language utterance;

generate a speech-based transcription based on a personal cognitive model associated with the user and a general cognitive model associated with the user, wherein the personal cognitive model includes information on one or more prior interactions between the device and the user, and wherein the general cognitive model includes information on one or more prior interactions between the device and a plurality of users;

~~identify an entry indicative of a context of the natural language utterance;~~

identify, from among a plurality of entries that are in a context stack and that are each indicative of context, an entry that matches information in the speech-based transcription;

identify a domain agent associated with the entry in the stack;

determine a request based on the speech-based transcription; and

communicate the request to the domain agent, wherein the domain agent is configured to generate a response to the user.

47. (**Cancelled**)

48. (**Currently Amended**) The device of claim 46 [[47]], wherein the one or more processors are configured to generate the speech-based transcription further based on an environmental model, wherein the environmental model includes information indicative of how noisy the environment of the user is.

Allowable Subject Matter

The prior art of record does not teach the combination of limitations in Claims 33 and 44 and 46 as amended.

Kennewick et al. (US 2004/0044516) and Coffman et al. (US 7,137,126) teach natural language systems which perform transcriptions (where Coffman teaches merged transcriptions from non-speech and speech input and where Kennewick teaches where transcriptions can be based on a cognitive model [i.e. where speech recognition may use the user profile]) and which include user identification, context stacks, domain agents, and determining requests as claimed, but does not teach where an entry in a context stack (which includes a plurality of entries that are each indicative of context) that matches information in the merged transcription is identified (merged from the speech and non-speech-based transcription where the speech-based transcription is generated based on the cognitive model including information on one or more prior interactions)

Claim 46 similarly recites, in combination with the remaining limitations of claim 46, the identification, from among a plurality of entries that are in a context stack and

that are each indicative of context, of an entry that matches information in the speech-based transcription.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 33, 44, and 46, are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 16 of U.S. Patent No. 7,620,549. Although the conflicting claims are not identical, they are not patentably distinct from each other because Claim 1 includes the multimodal recognition and domain agent limitations while claim 16 includes the context stack entry identification limitation.

4. Claims 33, 44, and 46, are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 7,640,160. Although the conflicting claims are not identical, they are not patentably distinct from each other because Claim 1 of U.S. Patent 7,640,160 includes all of the limitations of Claims 33, 44, and 46 of this application (i.e. claims 33, 44, and 46 of this application are broader versions of claim 1 of U.S. Patent 7,640,160)..

5. Claims 33, 44, and 46, are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 8,195,468. Although the conflicting claims are not identical, they are not patentably distinct from each other because Claim 1 of US Patent 8,195,468 include all of the limitations in claims 33, 44, and 46 of this application (i.e. claims 33, 44, and 46 of this application are broader versions of claim 1 of U.S. Patent 7,640,160).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC YEN whose telephone number is (571)272-4249. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EY 11/16/12
/Eric Yen/
Primary Examiner, Art Unit 2658

Notice of References Cited	Application/Control No. 13/488,299	Applicant(s)/Patent Under Reexamination WEIDER ET AL.	
	Examiner ERIC YEN	Art Unit 2658	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,620,549	11-2009	Di Cristo et al.	704/257
*	B	US-7,640,160	12-2009	Di Cristo et al.	704/257
*	C	US-8,195,468	06-2012	Weider et al.	704/275
*	D	US-6,195,634	02-2001	Dudemaine et al.	704/231
*	E	US-2004/0044516	03-2004	Kennewick et al.	704/005
*	F	US-7,137,126	11-2006	Coffman et al.	719/328
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Meta Platforms, Inc. - Exhibit 1002
Page 156 of 281

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13488299	WEIDER ET AL.
	Examiner	Art Unit
	ERIC YEN	2658

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	11/16/2012								
	33	✓								
	34	✓								
	35	✓								
	36	✓								
	37	✓								
	38	✓								
	39	✓								
	40	✓								
	41	✓								
	42	✓								
	43	✓								
	44	✓								
	45	✓								
	46	✓								
	47	✓								
	48	✓								

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	*To be Determined*
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	Herewith (June 4, 2012)	*To be Determined*

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	1A	4,430,669	02/07/1984	Cheung	358	122	
	1B	5,027,406	06/25/1991	Roberts *et al.*	381	43	
	1C	5,155,743	10/13/1992	Jacobs	375	28	
	1D	5,208,748	05/04/1993	Flores *et al.*	364	419	
	1E	5,274,560	12/28/1993	LaRue	364	444	
	1F	5,357,596	10/18/1994	Takebayashi *et al.*	395	2.84	
	1G	5,377,350	12/27/1994	Skinner	395	600	
	1H	5,386,556	01/31/1995	Hedin et al.	395	600	
	1I	5,424,947	06/13/1995	Nagao et al.	364	419.08	
	1J	5,471,318	11/28/1995	Ahuja et al.	358	400	
	1K	5,475,733	12/12/1995	Eisdorfer et al.	379	52	
	1L	5,488,652	01/30/1996	Bielby *et al.*	379	88	
	1M	5,499,289	03/12/1996	Bruno et al.	379	220	
	1N	5,500,920	03/19/1996	Kupiec	395	2.79	
	1O	5,517,560	05/14/1996	Greenspan	379	114	
	1P	5,533,108	07/02/1996	Harris et al.	379	201	
	1Q	5,537,436	07/16/1996	Bottoms et al.	375	222	
	1R	5,539,744	07/23/1996	Chu et al.	370	60	
	1S	5,557,667	09/17/1996	Bruno et al.	379	201	
	1T	5,563,937	10/08/1996	Bruno et al.	379	201	
	1U	5,577,165	11/19/1996	Takebayashi et al.	395	2.84	
	1V	5,590,039	12/31/1996	Ikeda et al.	395	759	
	1W	5,608,635	03/04/1997	Tamai	364	449.3	

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	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO
	1X	1 320 043 A2	06/18/2003	Europe				
	1Y	1 646 037	04/12/2006	Europe				
	1Z	WO 99/46763	09/16/1999	International				
	1AA	WO 00/21232	04/13/2000	International				
	1BB	WO 00/46792	08/10/2000	International				

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	1CC	REUTERS, "IBM to Enable Honda Drivers to Talk to Cars", Charles Schwab & Co., Inc., July 28, 2002, 1 page.
	1DD	LIN, Bor-shen, *et al.*, "A Distributed Architecture for Cooperative Spoken Dialogue Agents with Coherent Dialogue State and History", ASRU'99, 1999, 4 pages.

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*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	2A	5,617,407	04/01/1997	Bareis	369	275.3	
	2B	5,633,922	05/27/1997	August et al.	379	220	
	2C	5,675,629	10/07/1997	Raffel et al.	379	58	
	2D	5,696,965	12/09/1997	Dedrick	395	610	
	2E	5,708,422	01/13/1998	Blonder et al.	340	825.34	
	2F	5,721,938	02/24/1998	Stuckey	395	754	
	2G	5,722,084	02/24/1998	Chakrin et al.	455	551	
	2H	5,740,256	04/14/1998	Castello Da Costa *et al.*	361	94.7	
	2I	5,742,763	04/21/1998	Jones	395	200.3	
	2J	5,748,841	05/05/1998	Morin *et al.*	395	2.66	
	2K	5,748,974	05/05/1998	Johnson	395	759	
	2L	5,752,052	05/12/1998	Richardson et al.	395	759	
	2M	5,754,784	05/19/1998	Garland et al.	395	200.49	
	2N	5,761,631	06/02/1998	Nasukawa	704	9	
	2O	5,774,859	06/30/1998	Houser *et al.*	704	275	
	2P	5,794,050	08/11/1998	Dahlgren et al.	395	708	
	2Q	5,794,196	08/11/1998	Yegnanarayanan *et al.*	704	255	
	2R	5,797,112	08/18/1998	Komatsu *et al.*	701	201	
	2S	5,799,276	08/25/1998	Komissarchik *et al.*	704	251	
	2T	5,802,510	09/01/1998	Jones	707	2	
	2U	5,832,221	11/03/1998	Jones	375	200.36	
	2V	5,839,107	11/17/1998	Gupta *et al.*	704	270	
	2W	5,848,396	12/08/1998	Gerace	705	10	

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	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO
	2X	WO 01/78065	10/18/2001	International				
	2Y	WO 2004/072954	08/26/2004	International				
	2Z	WO 2007/019318	02/15/2007	International				
	2AA	WO 2007/021587	02/22/2007	International				
	2BB	WO 2007/027546	03/08/2007	International				

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	2CC	KUHN, Thomas, *et al.*, "Hybrid In-Car Speech Recognition for Mobile Multimedia Applications", Vehicular Technology Conference, IEEE, July 1999, pages 2009-2013.
	2DD	BELVIN, Robert, *et al.*, "Development of the HRL Route Navigation Dialogue System", Proceedings of the First International Conference on Human Language Technology Research, San Diego, 2001, pages 1-5.

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*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	3A	5,867,817	02/02/1999	Catallo *et al.*	704	255	
	3B	5,878,385	03/02/1999	Bralich *et al.*	704	9	
	3C	5,878,386	03/02/1999	Coughlin	704	10	
	3D	5,892,813	04/06/1999	Morin *et al.*	379	88.01	
	3E	5,895,464	04/20/1999	Bhandari *et al.*	707	3	
	3F	5,895,466	04/20/1999	Goldberg et al.	707	5	
	3G	5,897,613	04/27/1999	Chan	704	210	
	3H	5,902,347	05/11/1999	Backman *et al.*	701	200	
	3I	5,911,120	06/08/1999	Jarett et al.	455	417	
	3J	5,918,222	06/29/1999	Fukui *et al.*	707	1	
	3K	5,926,784	07/20/1999	Richardson et al.	704	9	
	3L	5,933,822	08/03/1999	Braden-Harder et al.	707	5	
	3M	5,953,393	09/14/1999	Culbreth et al.	379	88.25	
	3N	5,960,397	09/28/1999	Rahim	704	244	
	3O	5,960,399	09/28/1999	Barclay *et al.*	704	270	
	3P	5,960,447	09/28/1999	Holt *et al.*	707	500	
	3Q	5,963,894	10/05/1999	Richardson et al.	704	9	
	3R	5,963,940	10/05/1999	Liddy et al.	707	5	
	3S	5,987,404	11/16/1999	Della Pietra et al.	704	9	
	3T	5,991,721	11/23/1999	Asano et al.	704	257	
	3U	5,995,119	11/30/1999	Cosatto et al.	345	473	
	3V	5,995,928	11/30/1999	Nguyen *et al.*	704	251	
	3W	6,009,382	12/28/1999	Martino et al.	704	1	

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	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO
	3X	WO 2007/027989	03/08/2007	International				
	3Y	WO 2008/098039	08/14/2008	International				
	3Z	WO 2008/118195	10/02/2008	International				
	3AA	WO 2009/075912	06/18/2009	International				
	3BB	WO 2009/145796	12/03/2009	International				

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	3CC	LIND, R., *et al.*, "The Network Vehicle—A Glimpse into the Future of Mobile Multi-Media", IEEE Aerosp. Electron. Systems Magazine, Volume 14, No. 9, September 1999, pages 27-32.
	3DD	ZHAO, Yilin, "Telematics: Safe and Fun Driving", IEEE Intelligent Systems, Volume 17, Issue 1, 2002, pages 10-14.

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	4A	6,014,559	01/11/2000	Amin	455	413	
	4B	6,018,708	01/25/2000	Dahan *et al.*	704	244	
	4C	6,021,384	02/01/2000	Gorin et al.	704	1	
	4D	6,035,267	03/07/2000	Watanabe *et al.*	704	1	
	4E	6,044,347	03/28/2000	Abella et al.	704	272	
	4F	6,049,602	04/11/2000	Foladare et al.	379	265	
	4G	6,049,607	04/11/2000	Marash *et al.*	379	410	
	4H	6,058,187	05/02/2000	Chen	380	21	
	4I	6,067,513	05/23/2000	Ishimitsu	704	233	
	4J	6,078,886	06/20/2000	Dragosh et al.	704	270	
	4K	6,081,774	06/27/2000	De Hita et al.	704	9	
	4L	6,085,186	07/04/2000	Christianson *et al.*	707	3	
	4M	6,101,241	08/08/2000	Boyce et al.	379	88.01	
	4N	6,108,631	08/22/2000	Ruhl	704	270	
	4O	6,119,087	09/12/2000	Kuhn et al.	704	270	
	4P	6,134,235	10/17/2000	Goldman et al.	370	352	
	4Q	6,144,667	11/07/2000	Doshi et al.	370	401	
	4R	6,144,938	11/07/2000	Surace *et al.*	704	257	
	4S	6,154,526	11/28/2000	Dahlke *et al.*	379	88.03	
	4T	6,160,883	12/12/2000	Jackson et al.	379	230	
	4U	6,167,377	12/26/2000	Gillick *et al.*	704	240	
	4V	6,173,266	01/09/2001	Marx *et al.*	704	270	
	4W	6,173,279	01/09/2001	Levin et al.	707	5	

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	4X	WO 2010/096752	08/26/2010	International				

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	4Y	CHAI *et al.*, "MIND: A Semantics-Based Multimodal Interpretation Framework for Conversational System", Proceedings of the International CLASS Workshop on Natural, Intelligent and Effective Interaction in Multimodal Dialogue Systems, June 2002, pages 37-46.
	4Z	CHEYER *et al.*, "Multimodal Maps: An Agent-Based Approach", International Conference on Cooperative Multimodal Communication (CMC/95), May 24-26, 1995, pages 111-121.
	4AA	ELIO *et al.*, "On Abstract Task Models and Conversation Policies" in Workshop on Specifying and Implementing Conversation Policies, Autonomous Agents '99, Seattle, 1999, 10 pages.

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	5A	6,175,858	01/16/2001	Bulfer *et al.*	709	206	
	5B	6,185,535	02/06/2001	Hedin *et al.*	704	270	
	5C	6,188,982	02/13/2001	Chiang	704	256	
	5D	6,192,110	02/20/2001	Abella *et al.*	379	88.01	
	5E	6,192,338	02/20/2001	Haszto *et al.*	704	257	
	5F	6,195,634	02/27/2001	Dudemaine *et al.*	704	231	
	5G	6,195,651	02/27/2001	Handel *et al.*	707	2	
	5H	6,208,964	03/27/2001	Sabourin	704	244	
	5I	6,208,972	03/27/2001	Grant *et al.*	704	275	
	5J	6,219,346	04/17/2001	Maxemchuk	370	338	
	5K	6,219,643	04/17/2001	Cohen *et al.*	704	257	
	5L	6,226,612	05/01/2001	Srenger *et al.*	704	256	
	5M	6,233,556	05/15/2001	Teunen *et al.*	704	250	
	5N	6,233,559	05/15/2001	Balakrishnan	704	275	
	5O	6,233,561	05/15/2001	Junqua *et al.*	704	277	
	5P	6,246,981	06/12/2001	Papineni *et al.*	704	235	
	5Q	6,266,636	07/24/2001	Kosaka *et al.*	704	244	
	5R	6,269,336	07/31/2001	Ladd *et al.*	704	270	
	5S	6,272,455	08/07/2001	Hoshen *et al.*	704	1	
	5T	6,275,231	08/14/2001	Obradovich	345	349	
	5U	6,278,968	08/21/2001	Franz *et al.*	704	3	
	5V	6,288,319	09/11/2001	Catona	84	609	
	5W	6,292,767	09/18/2001	Jackson *et al.*	704	1	

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	5Y	MAO, Mark Z., "Automatic Training Set Segmentation for Multi-Pass Speech Recognition", Department of Electrical Engineering, Stanford University, CA, copyright 2005, IEEE, pages I-685 to I-688.
	5Z	VANHOUCKE, Vincent, "Confidence Scoring and Rejection Using Multi-Pass Speech Recognition", Nuance Communications, Menlo Park, CA, 2005, 4 pages.

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	6A	6,308,151	10/23/2001	Smith	704	235	
	6B	6,314,402	11/06/2001	Monaco et al.	704	275	
	6C	6,362,748	03/26/2002	Huang	340	901	
	6D	6,366,882	04/02/2002	Bijl *et al.*	704	235	
	6E	6,366,886	04/02/2002	Dragosh et al.	704	270.1	
	6F	6,374,214	04/16/2002	Friedland *et al.*	704	235	
	6G	6,377,913	04/23/2002	Coffman *et al.*	704	8	
	6H	6,381,535	04/30/2002	Durocher *et al.*	701	202	
	6I	6,385,596	05/07/2002	Wiser *et al.*	705	51	
	6J	6,385,646	05/07/2002	Brown et al.	709	217	
	6K	6,393,428	05/21/2002	Miller et al.	707	102	
	6L	6,397,181	05/28/2002	Li *et al.*	704	256	
	6M	6,404,878	06/11/2002	Jackson et al.	379	221.01	
	6N	6,405,170	06/11/2002	Phillips *et al.*	704	270	
	6O	6,408,272	06/18/2002	White *et al.*	704	270.1	
	6P	6,411,810	06/25/2002	Maxemchuk	455	453	
	6Q	6,415,257	07/02/2002	Junqua *et al.*	704	275	
	6R	6,418,210	07/09/2002	Sayko	379	142.15	
	6S	6,420,975	07/16/2002	DeLine *et al.*	340	815.4	
	6T	6,429,813	08/06/2002	Feigen	342	357.13	
	6U	6,430,285	08/06/2002	Bauer et al.	379	265.01	
	6V	6,430,531	08/06/2002	Polish	704	257	
	6W	6,434,523	08/13/2002	Monaco	704	257	

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	6X	WENG, Fuliang, *et al.*, "Efficient Lattice Representation and Generation", Speech Technology and Research Laboratory, SRI International, Menlo Park, CA, 1998, 4 pages.
	6Y	EL MELIANI *et al.*, "A Syllabic-Filler-Based Continuous Speech Recognizer for Unlimited Vocabulary", Canadian Conference on Electrical and Computer Engineering, Volume 2, September 5-8, 1995, pages 1007-1010.

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	7A	6,434,524	08/13/2002	Weber	704	257	
	7B	6,434,529	08/13/2002	Walker *et al.*	704	275	
	7C	6,442,522	08/27/2002	Carberry et al.	704	257	
	7D	6,446,114	09/03/2002	Bulfer et al.	709	206	
	7E	6,453,153	09/17/2002	Bowker et al.	455	67.4	
	7F	6,453,292	09/17/2002	Ramaswamy et al.	704	235	
	7G	6,456,711	09/24/2002	Cheung et al.	379	265.09	
	7H	6,456,974	09/24/2002	Baker *et al.*	704	270.1	
	7I	6,466,654	10/15/2002	Cooper *et al.*	379	88.01	
	7J	6,466,899	10/15/2002	Yano *et al.*	704	1	
	7K	6,470,315	10/22/2002	Netsch *et al.*	704	256	
	7L	6,498,797	12/24/2002	Anerousis et al.	370	522	
	7M	6,499,013	12/24/2002	Weber	704	257	
	7N	6,501,833	12/31/2002	Phillips *et al.*	379	88.07	
	7O	6,501,834	12/31/2002	Milewski et al.	379	93.24	
	7P	6,510,417	01/21/2003	Woods *et al.*	704	275	
	7Q	6,513,006	01/28/2003	Howard *et al.*	704	257	
	7R	6,522,746	02/18/2003	Marchok *et al.*	379	406.03	
	7S	6,523,061	02/18/2003	Halverson et al.	709	202	
	7T	6,532,444	03/11/2003	Weber	704	257	
	7U	6,539,348	03/25/2003	Bond et al.	704	9	
	7V	6,549,629	04/15/2003	Finn *et al.*	381	92	
	7W	6,553,372	04/22/2003	Brassell et al.	707	5	

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	7X	ARRINGTON, Michael, "Google Redefines GPS Navigation Landscape: Google Maps Navigation for Android 2.0", TechCrunch, printed from the Internet <http://www.techcrunch.com/2009/10/28/google-redefines-car-gps-navigation-google-maps-navigation-android/>, October 28, 2009, 4 pages.
	7Y	BAZZI, Issam *et al.*, "Heterogeneous Lexical Units for Automatic Speech Recognition: Preliminary Investigations", Processing of the IEEE International Conference on Acoustics, Speech, and Signal Processing, Volume 3, June 5-9, 2000, XP010507574, pages 1257-1260.

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	8A	6,556,970	04/29/2003	Sasaki *et al.*	704	257	
	8B	6,556,973	04/29/2003	Lewin	704	277	
	8C	6,560,576	05/06/2003	Cohen et al.	704	270	
	8D	6,560,590	05/06/2003	Shwe *et al.*	706	55	
	8E	6,567,778	05/20/2003	Chao Chang et al.	704	257	
	8F	6,567,797	05/20/2003	Schuetze *et al.*	707	2	
	8G	6,570,555	05/27/2003	Prevost *et al.*	345	156	
	8H	6,570,964	05/27/2003	Murveit et al.	379	67.1	
	8I	6,574,597	06/03/2003	Mohri *et al.*	704	251	
	8J	6,574,624	06/03/2003	Johnson et al.	707	5	
	8K	6,581,103	06/17/2003	Dengler	709	231	
	8L	6,587,858	07/01/2003	Strazza	707	102	
	8M	6,591,239	07/08/2003	McCall *et al.*	704	275	
	8N	6,594,257	07/15/2003	Doshi et al.	370	352	
	8O	6,594,367	07/15/2003	Marash *et al.*	381	92	
	8P	6,598,018	07/22/2003	Junqua	704	251	
	8Q	6,604,075	08/05/2003	Brown *et al.*	704	270.1	
	8R	6,604,077	08/05/2003	Dragosh et al.	704	270.1	
	8S	6,606,598	08/12/2003	Holthouse *et al.*	704	275	
	8T	6,611,692	08/26/2003	Raffel et al.	455	552	
	8U	6,614,773	09/02/2003	Maxemchuk	370	337	
	8V	6,615,172	09/02/2003	Bennett *et al.*	704	257	
	8W	6,622,119	09/16/2003	Ramaswamy *et al.*	704	9	

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	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO

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	8X	O'SHAUGHNESSY, Douglas, "Interacting with Computers by Voice: Automatic Speech Recognition and Synthesis", Proceedings of the IEEE, Volume 91, No. 9, September 1, 2003, XP011100665, pages 1272-1305.
	8Y	"Statement in Accordance with the Notice from the European Patent Office dated 1 October 2007 Concerning Business Methods (OJ EPO 11/2007, 592-593), XP002456252

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*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	9A	6,629,066	09/30/2003	Jackson et al.	704	9	
	9B	6,631,346	10/07/2003	Karaorman *et al.*	704	9	
	9C	6,633,846	10/14/2003	Bennett *et al.*	704	257	
	9D	6,643,620	11/04/2003	Contolini *et al.*	704	270	
	9E	6,650,747	11/18/2003	Bala et al.	379	265.06	
	9F	6,658,388	12/02/2003	Kleindienst *et al.*	704	275	
	9G	6,678,680	01/13/2004	Woo	707	6	
	9H	6,681,206	01/20/2004	Gorin *et al.*	704	243	
	9I	6,691,151	02/10/2004	Cheyer et al.	709	202	
	9J	6,701,294	03/02/2004	Ball *et al.*	704	257	
	9K	6,704,708	03/09/2004	Pickering	704	235	
	9L	6,708,150	03/16/2004	Hirayama *et al.*	704	243	
	9M	6,721,001	04/13/2004	Berstis	348	231.3	
	9N	6,721,706	04/13/2004	Strubbe *et al.*	704	275	
	9O	6,735,592	05/11/2004	Neumann *et al.*	707	101	
	9P	6,741,931	05/25/2004	Kohut *et al.*	701	209	
	9Q	6,742,021	05/25/2004	Halverson *et al.*	709	218	
	9R	6,751,591	06/15/2004	Gorin *et al.*	704	257	
	9S	6,751,612	06/15/2004	Schuetze *et al.*	707	4	
	9T	6,754,485	06/22/2004	Obradovich *et al.*	455	414.1	
	9U	6,757,544	06/29/2004	Rangarajan *et al.*	455	456.1	
	9V	6,757,718	06/29/2004	Halverson *et al.*	709	218	
	9W	6,795,808	09/21/2004	Strubbe *et al.*	704	275	

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*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	10A	6,801,604	10/05/2004	Maes *et al.*	379	88.17	
	10B	6,801,893	10/05/2004	Backfried *et al.*	704	257	
	10C	6,829,603	12/07/2004	Chai *et al.*	707	5	
	10D	6,832,230	12/14/2004	Zilliacus *et al.*	707	203	
	10E	6,833,848	12/21/2004	Wolff *et al.*	345	719	
	10F	6,856,990	02/15/2005	Barile *et al.*	707	10	
	10G	6,865,481	03/08/2005	Kawazoe *et al.*	701	211	
	10H	6,868,380	03/15/2005	Kroeker	704	240	
	10I	6,877,001	04/05/2005	Wolf *et al.*	707	3	
	10J	6,877,134	04/05/2005	Fuller *et al.*	715	500.1	
	10K	6,901,366	05/31/2005	Kuhn *et al.*	704	275	
	10L	6,910,003	06/21/2005	Arnold *et al.*	704	4	
	10M	6,912,498	06/28/2005	Stevens *et al.*	704	235	
	10N	6,934,756	08/23/2005	Maes	709	227	
	10O	6,937,977	08/30/2005	Gerson	704	201	
	10P	6,944,594	09/13/2005	Busayapongchai *et al.*	704	275	
	10Q	6,950,821	09/27/2005	Faybishenko *et al.*	707	10	
	10R	6,954,755	10/11/2005	Reisman	707	10	
	10S	6,959,276	10/25/2005	Droppo *et al.*	704	226	
	10T	6,968,311	11/22/2005	Knockeart *et al.*	704	270	
	10U	6,973,387	12/06/2005	Masclet *et al.*	701	211	
	10V	6,975,993	12/13/2005	Keiller	704	275	
	10W	6,980,092	12/27/2005	Turnbull *et al.*	340	425.5	

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*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	11A	6,983,055	01/03/2006	Luo	381	313	
	11B	6,990,513	01/24/2006	Belfiore *et al.*	709	203	
	11C	6,996,531	02/07/2006	Korall *et al.*	704	270	
	11D	7,003,463	02/21/2006	Maes *et al.*	704	270.1	
	11E	7,016,849	03/21/2006	Arnold *et al.*	704	275	
	11F	7,020,609	03/28/2006	Thrift *et al.*	704	270.1	
	11G	7,024,364	04/04/2006	Guerra *et al.*	704	270	
	11H	7,027,975	04/11/2006	Pazandak *et al.*	704	9	
	11I	7,035,415	04/25/2006	Belt *et al.*	381	92	
	11J	7,043,425	05/09/2006	Pao	704	211	
	11K	7,054,817	05/30/2006	Shao	704	270	
	11L	7,058,890	06/06/2006	George *et al.*	715	728	
	11M	7,062,488	06/13/2006	Reisman	707	8	
	11N	7,069,220	06/27/2006	Coffman *et al.*	704	275	
	11O	7,072,834	07/04/2006	Zhou	704	244	
	11P	7,082,469	07/25/2006	Gold *et al.*	709	231	
	11Q	7,092,928	08/15/2006	Elad *et al.*	706	60	
	11R	7,107,210	09/12/2006	Deng *et al.*	704	226	
	11S	7,110,951	09/19/2006	Lemelson *et al.*	704	270	
	11T	7,127,400	10/24/2006	Koch	704	270.1	
	11U	7,136,875	11/14/2006	Anderson *et al.*	707	104.1	
	11V	7,137,126	11/14/2006	Coffman *et al.*	719	328	
	11W	7,143,037	11/28/2006	Chestnut	704	251	

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	12A	7,146,319	12/05/2006	Hunt	704	254	
	12B	7,165,028	01/16/2007	Gong	704	233	
	12C	7,184,957	02/27/2007	Brookes *et al.*	704	246	
	12D	7,197,069	03/27/2007	Agazzi *et al.*	375	233	
	12E	7,203,644	04/10/2007	Anderson *et al.*	704	246	
	12F	7,206,418	04/17/2007	Yang *et al.*	381	92	
	12G	7,207,011	04/17/2007	Mulvey *et al.*	715	812	
	12H	7,228,276	06/05/2007	Omote *et al.*	704	243	
	12I	7,231,343	06/12/2007	Treadgold *et al.*	704	9	
	12J	7,236,923	06/26/2007	Gupta	704	9	
	12K	7,277,854	10/02/2007	Bennett *et al.*	704	257	
	12L	7,289,606	10/30/2007	Sibal *et al.*	379	52	
	12M	7,301,093	11/27/2007	Sater *et al.*	84	615	
	12N	7,305,381	12/04/2007	Poppink *et al.*	1	1	
	12O	7,328,155	02/05/2008	Endo *et al.*	704	251	
	12P	7,337,116	02/26/2008	Charlesworth *et al.*	704	254	
	12Q	7,340,040	03/04/2008	Saylor *et al.*	379	67.1	
	12R	7,366,669	04/29/2008	Nishitani *et al.*	704	256	
	12S	7,376,645	05/20/2008	Bernard	707	3	
	12T	7,386,443	06/10/2008	Parthasarathy *et al.*	704	201	
	12U	7,398,209	07/08/2008	Kennewick *et al.*	704	255	
	12V	7,406,421	07/29/2008	Odinak *et al.*	704	275	
	12W	7,415,414	08/19/2008	Azara *et al.*	704	270	

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	13A	7,424,431	09/09/2008	Greene *et al.*	704	270	
	13B	7,447,635	11/04/2008	Konopka *et al.*	704	275	
	13C	7,461,059	12/02/2008	Richardson *et al.*	707	5	
	13D	7,472,020	12/30/2008	Brulle-Drews	701	211	
	13E	7,472,060	12/30/2008	Gorin *et al.*	704	240	
	13F	7,478,036	01/13/2009	Shen *et al.*	704	9	
	13G	7,487,088	02/03/2009	Gorin *et al.*	704	240	
	13H	7,493,259	02/17/2009	Jones *et al.*	704	257	
	13I	7,493,559	02/17/2009	Wolff *et al.*	715	727	
	13J	7,502,738	03/10/2009	Kennewick *et al.*	704	257	
	13K	7,516,076	04/07/2009	Walker *et al.*	704	275	
	13L	7,536,297	05/19/2009	Byrd *et al.*	704	10	
	13M	7,536,374	05/19/2009	Au	706	55	
	13N	7,558,730	07/07/2009	Davis *et al.*	704	235	
	13O	7,574,362	08/11/2009	Walker *et al.*	704	275	
	13P	7,577,244	08/18/2009	Taschereau	379	218.01	
	13Q	7,606,708	10/20/2009	Hwang	704	257	
	13R	7,620,549	11/17/2009	Di Cristo *et al.*	704	257	
	13S	7,634,409	12/15/2009	Kennewick *et al.*	704	257	
	13T	7,640,160	12/29/2009	Di Cristo *et al.*	704	257	
	13U	7,676,365	03/09/2010	Hwang *et al.*	704	240	
	13V	7,676,369	03/09/2010	Fujimoto *et al.*	704	270	
	13W	7,693,720	04/06/2010	Kennewick *et al.*	704	275	

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	14A	7,729,918	06/01/2010	Walker *et al.*	704	275	
	14B	7,788,084	08/31/2010	Brun *et al.*	704	7	
	14C	7,809,570	10/05/2010	Kennewick *et al.*	704	257	
	14D	7,818,176	10/19/2010	Freeman *et al.*	704	270	
	14E	7,831,433	11/09/2010	Belvin *et al.*	704	275	
	14F	7,873,523	01/18/2011	Potter *et al.*	704	275	
	14G	7,902,969	03/08/2011	Obradovich	340	439	
	14H	7,917,367	03/29/2011	Di Cristo *et al.*	704	270.1	
	14I	7,949,529	05/24/2011	Weider *et al.*	704	270	
	14J	7,949,537	05/24/2011	Walker *et al.*	704	275	
	14K	7,974,875	07/05/2011	Quilici *et al.*	705	14.4	
	14L	7,983,917	07/19/2011	Kennewick *et al.*	704	257	
	14M	8,015,006	09/06/2011	Kennewick *et al.*	704	236	
	14N	8,060,367	11/15/2011	Keaveney	704	247	
	14O	8,069,046	11/29/2011	Kennewick *et al.*	704	257	
	14P	8,073,681	12/06/2011	Baldwin *et al.*	704	9	
	14Q	8,086,463	12/27/2011	Ativanichayaphong *et al.*	704	275	
	14R	8,112,275	02/07/2012	Kennewick *et al.*	704	240	
	14S	8,140,327	03/20/2012	Kennewick *et al.*	704	226	
	14T	8,140,335	03/20/2012	Kennewick *et al.*	704	257	
	14U	8,145,489	03/27/2012	Freeman *et al.*	704	257	
	14V	8,150,694	04/03/2012	Kennewick *et al.*	704	257	
	14W	8,155,962	04/10/2012	Kennewick *et al.*	704	257	

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	15A	2001/0041980	11/15/2001	Howard *et al.*	704	270	
	15B	2001/0049601	12/06/2001	Kroeker *et al.*	704	254	
	15C	2002/0015500	02/07/2002	Belt *et al.*	381	66	
	15D	2002/0022927	02/21/2002	Lemelson *et al.*	701	301	
	15E	2002/0035501	03/21/2002	Handel *et al.*	705	10	
	15F	2002/0049805	04/25/2002	Yamada *et al.*	709	202	
	15G	2002/0065568	05/30/2002	Silfvast *et al.*	700	94	
	15H	2002/0069059	06/06/2002	Smith	704	257	
	15I	2002/0069071	06/06/2002	Knockeart et al.	704	275	
	15J	2002/0082911	06/27/2002	Dunn *et al.*	705	14	
	15K	2002/0087525	07/04/2002	Abbott *et al.*	707	3	
	15L	2002/0120609	08/29/2002	Lang *et al.*	707	1	
	15M	2002/0124050	09/05/2002	Middeljans	709	203	
	15N	2002/0133402	09/19/2002	Faber *et al.*	705	14	
	15O	2002/0138248	09/26/2002	Corston-Oliver *et al.*	704	1	
	15P	2002/0143535	10/03/2002	Kist *et al.*	704	251	
	15Q	2002/0161646	10/31/2002	Gailey *et al.*	705	14	
	15R	2002/0188602	12/12/2002	Stubler *et al.*	707	3	
	15S	2002/0198714	12/26/2002	Zhou	704	252	
	15T	2003/0014261	01/16/2003	Kageyama	704	275	
	15U	2003/0016835	01/23/2003	Elko *et al.*	381	92	
	15V	2003/0046346	03/06/2003	Mumick *et al.*	709	205	
	15W	2003/0064709	04/03/2003	Gailey *et al.*	455	412	

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	16A	2003/0088421	05/08/2003	Maes *et al.*	704	270.1	
	16B	2003/0097249	05/22/2003	Walker *et al.*	704	1	
	16C	2003/0110037	06/12/2003	Walker *et al.*	704	257	
	16D	2003/0112267	06/19/2003	Belrose	345	728	
	16E	2003/0115062	06/19/2003	Walker *et al.*	704	258	
	16F	2003/0120493	06/26/2003	Gupta	704	270.1	
	16G	2003/0135488	07/17/2003	Amir *et al.*	707	3	
	16H	2003/0144846	07/31/2003	Denenberg *et al.*	704	277	
	16I	2003/0158731	08/21/2003	Falcon *et al.*	704	231	
	16J	2003/0182132	09/25/2003	Niemoeller	704	275	
	16K	2003/0204492	10/30/2003	Wolf *et al.*	707	3	
	16L	2003/0206640	11/06/2003	Malvar *et al.*	381	93	
	16M	2003/0212550	11/13/2003	Ubale	704	215	
	16N	2003/0236664	12/25/2003	Sharma	704	251	
	16O	2004/0006475	01/08/2004	Ehlen *et al.*	704	270.1	
	16P	2004/0025115	02/05/2004	Sienel *et al.*	715	513	
	16Q	2004/0044516	03/04/2004	Kennewick *et al.*	704	5	
	16R	2004/0098245	05/20/2004	Walker *et al.*	704	1	
	16S	2004/0166832	08/26/2004	Portman *et al.*	455	412.1	
	16T	2004/0167771	08/26/2004	Duan *et al.*	704	10	
	16U	2004/0193408	09/30/2004	Hunt	704	209	
	16V	2004/0193420	09/30/2004	Kennewick *et al.*	704	257	
	16W	2004/0199375	10/07/2004	Ehsani *et al.*	704	4	

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	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	DATE CONSIDERED
/E. Yen/	11/16/2012

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INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	*To be Determined*
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	Herewith (June 4, 2012)	*To be Determined*

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*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	17A	2004/0205671	10/14/2004	Sukehiro *et al.*	715	532	
	17B	2004/0243417	12/02/2004	Pitts, III *et al.*	704	276	
	17C	2005/0015256	01/20/2005	Kargman	704	272	
	17D	2005/0021334	01/27/2005	Iwahashi	704	240	
	17E	2005/0021826	01/27/2005	Kumar	709	232	
	17F	2005/0033574	02/10/2005	Kim *et al.*	704	251	
	17G	2005/0043940	02/24/2005	Elder	704	9	
	17H	2005/0114116	05/26/2005	Fiedler	704	201	
	17I	2005/0137850	06/23/2005	Odell	704	4	
	17J	2005/0137877	06/23/2005	Oesterling *et al.*	704	275	
	17K	2005/0143994	06/30/2005	Mori *et al.*	704	235	
	17L	2005/0246174	11/03/2005	DeGolia	704	270	
	17M	2006/0206310	09/14/2006	Ravikumar *et al.*	704	9	
	17N	2007/0033005	02/08/2007	Cristo *et al.*	704	9	
	17O	2007/0033020	02/08/2007	(Kelleher) Francois *et al.*	704	226	
	17P	2007/0038436	02/15/2007	Cristo *et al.*	704	9	
	17Q	2007/0043574	02/22/2007	Coffman *et al.*	704	275	
	17R	2007/0050191	03/01/2007	Weider *et al.*	704	275	
	17S	2007/0055525	03/08/2007	Kennewick *et al.*	704	257	
	17T	2007/0073544	03/29/2007	Millett *et al.*	704	277	
	17U	2007/0078708	04/05/2007	Yu *et al.*	705	14	
	17V	2007/0078709	04/05/2007	Rajaram	705	14	
	17W	2007/0118357	05/24/2007	Kasravi *et al.*	704	10	

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*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	18A	2007/0162296	07/12/2007	Altberg *et al.*	705	1	
	18B	2007/0179778	08/02/2007	Gong *et al.*	704	9	
	18C	2007/0186165	08/09/2007	Maislos *et al.*	715	728	
	18D	2007/0214182	09/13/2007	Rosenberg	707	104.1	
	18E	2007/0250901	10/25/2007	McIntire *et al.*	725	146	
	18F	2007/0265850	11/15/2007	Kennewick *et al.*	704	257	
	18G	2007/0299824	12/27/2007	Pan *et al.*	707	3	
	18H	2008/0065386	03/13/2008	Cross *et al.*	704	270	
	18I	2008/0091406	04/17/2008	Baldwin *et al.*	704	4	
	18J	2008/0103761	05/01/2008	Printz *et al.*	704	9	
	18K	2008/0109285	05/08/2008	Reuther *et al.*	705	7	
	18L	2008/0115163	05/15/2008	Gilboa *et al.*	725	34	
	18M	2008/0133215	06/05/2008	Sarukkai	704	2	
	18N	2008/0140385	06/12/2008	Mahajan *et al.*	704	9	
	18O	2008/0177530	07/24/2008	Cross *et al.*	704	4	
	18P	2008/0189110	08/07/2008	Freeman *et al.*	704	251	
	18Q	2008/0235023	09/25/2008	Kennewick *et al.*	704	257	
	18R	2008/0235027	09/25/2008	Cross	704	270.1	
	18S	2008/0319751	12/25/2008	Kennewick *et al.*	704	257	
	18T	2009/0067599	03/12/2009	Agarwal *et al.*	379	114.21	
	18U	2009/0117885	05/07/2009	Roth	455	414.3	
	18V	2009/0144271	06/04/2009	Richardson *et al.*	707	5	
	18W	2009/0150156	06/11/2009	Kennewick *et al.*	704	257	

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Form PTO-1449	Herewith (June 4, 2012)	*To be Determined*

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	19A	2009/0171664	07/02/2009	Kennewick *et al.*	704	257	
	19B	2009/0216540	08/27/2009	Tessel *et al.*	704	275	
	19C	2009/0271194	10/29/2009	Davis *et al.*	704	235	
	19D	2009/0299745	12/03/2009	Kennewick *et al.*	704	257	
	19E	2010/0023320	01/28/2010	Di Cristo *et al.*	704	9	
	19F	2010/0049501	02/25/2010	Kennewick *et al.*	704	9	
	19G	2010/0049514	02/25/2010	Kennewick *et al.*	704	233	
	19H	2010/0057443	03/04/2010	Di Cristo *et al.*	704	9	
	19I	2010/0063880	03/11/2010	Atsmon *et al.*	705	14.53	
	19J	2010/0185512	07/22/2010	Borger *et al.*	705	14.49	
	19K	2010/0145700	06/10/2010	Kennewick *et al.*	704	257	
	19L	2010/0204986	08/12/2010	Kennewick *et al.*	704	226	
	19M	2010/0204994	08/12/2010	Kennewick *et al.*	704	257	
	19N	2010/0217604	08/26/2010	Baldwin *et al.*	704	275	
	19O	2010/0286985	11/11/2010	Kennewick *et al.*	704	257	
	19P	2010/0299142	11/25/2010	Freeman *et al.*	704	9	
	19Q	2011/0112827	05/12/2011	Kennewick *et al.*	704	9	
	19R	2011/0112921	05/12/2011	Kennewick *et al.*	705	26.1	
	19S	2011/0131036	06/02/2011	Di Cristo *et al.*	704	9	
	19T	2011/0131045	06/02/2011	Cristo *et al.*	704	249	
	19U	2011/0231182	09/22/2011	Weider *et al.*	704	9	
	19V	2011/0231188	09/22/2011	Kennewick *et al.*	704	236	
	19W	2012/0022857	01/26/2012	Baldwin *et al.*	704	9	

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Form PTO-1449	Herewith (June 4, 2012)	*To be Determined*

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	20A	2012/0101809	04/26/2012	Kennewick *et al.*	704	9	
	20B	2012/0101810	04/26/2012	Kennewick *et al.*	704	9	
	20C	2012/0109753	05/03/2012	Kennewick *et al.*	705	14.58	

FOREIGN PATENT DOCUMENTS

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13488299	WEIDER ET AL.
	Examiner	Art Unit
	ERIC YEN	2658

SEARCHED			
Class	Subclass	Date	Examiner
704	270-275	10/16/12	EY

SEARCH NOTES		
Search Notes	Date	Examiner
Review of cases 11/200164 11/197504	11/1/126	EY

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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CONFIRMATION NO. 7852

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
13/488,299	06/04/2012	704	2658	090611-0408808

APPLICANTS

CHRIS WEIDER, Everett, WA;
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Robert A. Kennewick, Seattle, WA;
Samuel Menaker, Bellevue, WA;
Lynn Elise Armstrong, Woodinville, WA;

**** CONTINUING DATA **************************

This application is a CON of 13/084,197 04/11/2011 PAT 8,195,468 *
which is a DIV of 11/212,693 08/29/2005 PAT 7,949,529
(*)Data provided by applicant is not consistent with PTO records.

**** FOREIGN APPLICATIONS **************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **
06/12/2012

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /ERIC L YEN/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		WA	8	16	3

ADDRESS

Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102
UNITED STATES

TITLE

MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

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BIB (Rev. 05/07).

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*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	1A	5,855,000	12/29/1998	Waibel *et al.*	704	235	
	1B	5,892,900	04/06/1999	Ginter *et al.*	395	186	
	1C	6,076,059	06/13/2000	Glickman *et al.*	704	260	
	1D	6,199,043	03/06/2001	Happ	704	272	
	1E	6,236,968	05/22/2001	Kanevsky *et al.*	704	275	
	1F	6,246,990	06/12/2001	Happ	704	275	
	1G	6,301,560	10/09/2001	Masters	704	251	
	1H	6,393,403	05/21/2002	Majaniemi	704	275	
	1I	6,571,279	05/27/2003	Herz *et al.*	709	217	
	1J	6,578,022	06/10/2003	Foulger *et al.*	706	45	
	1K	6,584,439	06/24/2003	Geilhufe *et al.*	704	270	
	1L	6,601,026	07/29/2003	Appelt *et al.*	704	9	
	1M	6,631,351	10/07/2003	Ramachandran *et al.*	704	270	
	1N	6,704,396	03/09/2004	Parolkar *et al.*	379	88.17	
	1O	6,745,161	06/01/2004	Arnold *et al.*	704	7	
	1P	6,850,603	02/01/2005	Eberle *et al.*	379	88.16	
	1Q	7,027,586	04/11/2006	Bushey *et al.*	379	265.09	
	1R	7,107,218	09/12/2006	Preston	704	270	
	1S	7,130,390	10/31/2006	Abburi	379	88.17	
	1T	7,143,039	11/28/2006	Stifelman *et al.*	704	270	
	1U	7,190,770	03/13/2007	Ando *et al.*	379	88.01	
	1V	7,272,212	09/18/2007	Eberle *et al.*	379	88.17	
	1W	7,283,829	10/16/2007	Christenson *et al.*	455	461	

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*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	2A	7,283,951	10/16/2007	Marchisio *et al.*	704	9	
	2B	7,299,186	11/20/2007	Kuzunuki *et al.*	704	270.1	
	2C	7,321,850	01/22/2008	Wakita	704	10	
	2D	7,366,285	04/29/2008	Parolkar *et al.*	379	88.17	
	2E	7,454,608	11/18/2008	Gopalakrishnan *et al.*	713	100	
	2F	7,529,675	05/05/2009	Maes	704	270.1	
	2G	7,542,894	06/02/2009	Murata	704	9	
	2H	7,546,382	06/09/2009	Healey *et al.*	709	246	
	2I	7,640,006	12/29/2009	Portman *et al.*	455	412.1	
	2J	7,640,272	12/29/2009	Mahajan *et al.*	707	104.1	
	2K	7,684,977	03/23/2010	Morikawa	704	211	
	2L	7,729,916	06/01/2010	Coffman *et al.*	704	270	
	2M	7,729,920	06/01/2010	Chaar *et al.*	704	275	
	2N	7,748,021	06/29/2010	Obradovich	725	105	
	2O	7,801,731	09/21/2010	Odinak *et al.*	704	275	
	2P	7,831,426	11/09/2010	Bennett	704	252	
	2Q	7,873,519	01/18/2011	Bennett	704	257	
	2R	7,881,936	02/01/2011	Longe *et al.*	704	257	
	2S	7,894,849	02/22/2011	Kass *et al.*	455	550.1	
	2T	7,920,682	04/05/2011	Byrne *et al.*	379	88.18	
	2U	7,953,732	05/31/2011	Frank *et al.*	707	724	
	2V	7,984,287	07/19/2011	Gopalakrishnan *et al.*	713	100	
	2W	8,005,683	08/23/2011	Tessel *et al.*	704	275	

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	3A	8,077,975	12/13/2011	Ma *et al.*	382	187	
	3B	8,082,153	12/20/2011	Coffman *et al.*	704	270	
	3C	8,170,867	05/01/2012	Germain	704	9	
	3D	8,219,599	07/10/2012	Tunstall-Pedoe	707	955	
	3E	8,224,652	07/17/2012	Wang *et al.*	704	275	
	3F	8,326,627	12/04/2012	Kennewick *et al.*	704	257	
	3G	8,326,634	12/04/2012	Di Cristo *et al.*	704	270.1	
	3H	8,326,637	12/04/2012	Baldwin *et al.*	704	275	
	3I	8,332,224	12/11/2012	Di Cristo *et al.*	704	257	
	3J	2001/0054087	12/20/2001	Flom *et al.*	709	218	
	3K	2002/0029261	03/07/2002	Shibata	709	219	
	3L	2002/0032752	03/14/2002	Gold *et al.*	709	218	
	3M	2002/0087326	07/04/2002	Lee *et al.*	704	270.1	
	3N	2002/0173961	11/21/2002	Guerra	704	258	
	3O	2002/0184373	12/05/2002	Maes	709	228	
	3P	2003/0065427	04/03/2003	Funk *et al.*	701	1	
	3Q	2003/0161448	08/28/2003	Parolkar *et al.*	379	88.17	
	3R	2003/0212558	11/13/2003	Matula	704	260	
	3S	2003/0212562	11/13/2003	Patel *et al.*	704	275	
	3T	2003/0225825	12/04/2003	Healey *et al.*	709	203	
	3U	2004/0117804	06/17/2004	Scahill *et al.*	719	320	
	3V	2004/0140989	07/22/2004	Papageorge	345	700	
	3W	2004/0158555	08/12/2004	Seedman *et al.*	707	3	

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	4A	2005/0125232	06/09/2005	Gadd	704	270.1	
	4B	2005/0216254	09/29/2005	Gupta *et al.*	704	9	
	4C	2005/0234727	10/20/2005	Chiu	704	270.1	
	4D	2005/0283752	12/22/2005	Fruchter *et al.*	717	100	
	4E	2006/0041431	02/23/2006	Maes	704	270.1	
	4F	2006/0047509	03/02/2006	Ding *et al.*	704	231	
	4G	2006/0217133	09/28/2006	Christenson *et al.*	455	461	
	4H	2006/0285662	12/21/2006	Yin *et al.*	379	88.16	
	4I	2007/0043868	02/22/2007	Kumar *et al.*	709	226	
	4J	2007/0135101	06/14/2007	Ramati *et al.*	455	414.1	
	4K	2007/0146833	06/28/2007	Satomi *et al.*	358	537	
	4L	2007/0198267	08/23/2007	Jones *et al.*	704	257	
	4M	2008/0034032	02/07/2008	Healey *et al.*	709	203	
	4N	2008/0147410	06/19/2008	Odinak	704	270.1	
	4O	2009/0052635	02/26/2009	Jones *et al.*	379	88.02	
	4P	2009/0106029	04/23/2009	DeLine *et al.*	704	275	
	4Q	2009/0273563	11/05/2009	Pryor	345	157	
	4R	2009/0313026	12/17/2009	Coffman *et al.*	704	275	
	4S	2010/0029261	02/04/2010	Mikkelsen *et al.*	455	419	
	4T	2010/0036967	02/11/2010	Caine *et al.*	709	236	
	4U	2010/0312566	12/09/2010	Odinak *et al.*	704	275	
	4V	2012/0150636	06/14/2012	Freeman *et al.*	705	14.49	

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Electronic Patent Application Fee Transmittal	
Application Number:	13488299
Filing Date:	04-Jun-2012
Title of Invention:	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS
First Named Inventor/Applicant Name:	CHRIS WEIDER
Filer:	Ngai Bing Zhang/Miriam Nelsen Awan
Attorney Docket Number:	090611-0408808
Filed as Small Entity	

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Statutory or terminal disclaimer	2814	3	80	240
		Total in USD ($)		**420**

Electronic Acknowledgement Receipt	
EFS ID:	14580137
Application Number:	13488299
International Application Number:	
Confirmation Number:	7852
Title of Invention:	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS
First Named Inventor/Applicant Name:	CHRIS WEIDER
Customer Number:	909
Filer:	Ngai Bing Zhang/Miriam Nelsen Awan
Filer Authorized By:	Ngai Bing Zhang
Attorney Docket Number:	090611-0408808
Receipt Date:	28-DEC-2012
Filing Date:	04-JUN-2012
Time Stamp:	16:07:33
Application Type:	Utility under 35 USC 111(a)

Payment information:

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Payment Type	Deposit Account
Payment was successfully received in RAM	$420
RAM confirmation Number	2897
Deposit Account	033975
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		090611-0408808_Response.pdf	475583 14130b572d333ee5ee68655e34cc68d66d815528	yes	11

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	5
Applicant Arguments/Remarks Made in an Amendment	6	8
Terminal Disclaimer Filed	9	11

Warnings:

Information:

2	Transmittal Letter	090611-0408808_SIDS.pdf	524947 43291e1e94cb90146e0692f17b81388761144c17	no	2

Warnings:

Information:

3	Information Disclosure Statement (IDS) Form (SB08)	090611-0408808_IDSPTO1449.pdf	774013 71f7da5ec84fd874d153a784bda88fcd23eeb289	no	4

Warnings:

Information:

This is not an USPTO supplied IDS fillable form

4	Fee Worksheet (SB06)	fee-info.pdf	32119 e20d70232477672cbb3a37d5fbdaf289582d23de	no	2

Warnings:

Information:

Total Files Size (in bytes):	1806662

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/26 (08-11)
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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 090611-0408808

In re Application of: CHRIS WEIDER, et al.

Application No.: 13/488,299

Filed: June 4, 2012

For: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

The owner*, VoiceBox Technologies, Inc., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 7,620,549 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

expires for failure to pay a maintenance fee;
is held unenforceable;
is found invalid by a court of competent jurisdiction;
is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
has all claims canceled by a reexamination certificate;
is reissued; or
is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 65,473

Ngai Zhang — Signature — 12/28/12 — Date

Ngai B. Zhang
Typed or printed name

(703) 770-7532
Telephone Number

☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

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TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 090611-0408808

In re Application of: CHRIS WEIDER, et al.

Application No.: 13/488,299

Filed: June 4, 2012

For: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

The owner*, VoiceBox Technologies, Inc., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 7,640,160 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

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expires for failure to pay a maintenance fee;
is held unenforceable;
is found invalid by a court of competent jurisdiction;
is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
has all claims canceled by a reexamination certificate;
is reissued; or
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Ngai Zhang — Signature — 12/28/12 — Date

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TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 090611-0408808

In re Application of: CHRIS WEIDER, et al.

Application No.: 13/488,299

Filed: June 4, 2012

For: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

The owner*, VoiceBox Technologies, Inc., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 8,195,468 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

expires for failure to pay a maintenance fee;
is held unenforceable;
is found invalid by a court of competent jurisdiction;
is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
has all claims canceled by a reexamination certificate;
is reissued; or
is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 65,473

Ngai Zhang — Signature

12/28/12 — Date

Ngai B. Zhang
Typed or printed name

(703) 770-7532
Telephone Number

☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS :	Chris WEIDER *et al.*	CONFIRMATION No.:	7852
SERIAL NUMBER :	13/488,299	EXAMINER:	Eric L. Yen
FILING DATE :	June 4, 2012	ART UNIT:	2658
FOR :	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97 and 1.98, Applicants hereby make of record in the above-identified application the documents listed on the attached Form PTO-1449.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This Supplemental Information Disclosure Statement is being filed more than three months after the filing date of a national application other than a continued prosecution application under 37 C.F.R. § 1.53(d), or more than three months after the date of entry of the

national stage as set forth in 37 C.F.R. § 1.491 in an international application, and after the mailing date of the first Office Action on the merits, but before the mailing date of any of a Final Action under 37 C.F.R. § 1.113, a Notice of Allowance under 37 C.F.R. § 1.311, or an action that otherwise closes prosecution in the application. 37 C.F.R. § 1.97(c).

Please charge the $180.00 fee [37 C.F.R. § 1.17(p)] to Deposit Account No. 03-3975. In addition, please charge any fee deficiencies, or credit any overpayment, to Deposit Account No. 03-3975 as needed to ensure consideration of the Supplemental Information Disclosure Statement.

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP

By /Ngai B. Zhang/
Ngai B. Zhang
Registration No.: 65,473

Customer No.
00909

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McLean, Virginia 22102
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Telefax: (703) 770-7901

Dated: December 28, 2012

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE PATENT APPLICATION OF:	Chris WEIDER *et al.*
SERIAL NO.:	13/488,299
FILING DATE:	June 4, 2012
ATTORNEY DOCKET NO.:	090611-0408808
CONFIRMATION NO.:	7852
EXAMINER:	Eric Yen
ART UNIT:	2658
FOR:	Mobile Systems and Methods of Supporting Natural Language Human-Machine Interactions

RESPONSE TO NON-FINAL OFFICE ACTION mailed 28 November 2012

Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22313-1450

Dear Sir:

In response to the Non-Final Office Action mailed **November 28, 2012**, please amend the above-identified application as follows:

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 6 of this paper.

It is not believed that extensions of time or fees for net addition of claims are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned for under 37 C.F.R. § 1.136(a), and any fees required therefore (including fees for net addition of claims) are hereby authorized to be charged to Deposit Account No. 033975 (**Ref. No. 090611-0408808**).

This listing of claims will replace all prior versions and listings of claims in the Application.

LISTING OF CLAIMS

1-32. (**Canceled**)

33. (**Previously Presented**) A device for processing natural language inputs, comprising one or more processors configured to:

receive a multi-modal natural language input from a user, the multi-modal natural language input including a natural language utterance and a non-speech input;

generate a non-speech transcription from the non-speech input;

identify the user who provided the multi-modal natural language input;

generate a speech-based transcription based on a cognitive model associated with the user, wherein the cognitive model includes information on one or more prior interactions between the user and the device;

generate a merged transcription from the speech-based transcription and the non-speech transcription;

identify, from among a plurality of entries that are in a context stack and that are each indicative of context, an entry in the context stack that matches information in the merged transcription;

identify a domain agent associated with the entry in the context stack;

determine a request based on the merged transcription; and

communicate the request to the domain agent, wherein the domain agent is configured to generate a response to the user.

34. (**Previously Presented**) The device of claim 33, wherein the response includes an aggregation of content gathered when the identified domain agent processes the request.

35. (**Previously Presented**) The device of claim 33, wherein the multi-modal natural language input is a first multi-modal natural language input and is received during a first

session, the one or more processors further configured to receive a second multi-modal natural language input from another user during the first session.

36. (**Previously Presented**) The device of claim 33, wherein the one or more processors are configured to support interactions with a plurality of users during an interleaved session.

37. (**Previously Presented**) The device of claim 33, wherein the cognitive model is a first cognitive model, wherein the one or more processors are configured to generate the speech-based transcription based on a second cognitive model that includes information on one or more interactions between the device and a plurality of users of the device.

38. (**Previously Presented**) The device of claim 37, wherein the one or more processors are configured to generate the speech-based transcription further based on an environmental model that has information indicative of an environment of the user.

39. (**Previously Presented**) The device of claim 38, wherein the environmental model has information indicative of how noisy the environment of the user is.

40. (**Currently Amended**) The device of claim 33, wherein the one or more processors are configured to receive one or more subsequent multi-modal ~~natural language~~ inputs, the ~~follow-up~~ subsequent multi-modal inputs including at least one of a ~~follow-up~~ subsequent natural language utterance or a ~~follow-up~~ subsequent non-speech input.

41. (**Previously Presented**) The device of claim 33, wherein the identified domain agent is configured to update the context stack in response to processing the request.

42. (**Previously Presented**) The device of claim 33, wherein the one or more processors are configured to synchronize the context stack with a context stack of another device.

43. (**Previously Presented**) The device of claim 42, wherein the one or more processors are configured to synchronize the cognitive model with a cognitive model of another device.

44. (**Previously Presented**) A method for processing natural language inputs, comprising:

receiving, by one or more processors, a multi-modal natural language input from a user, the multi-modal natural language input including a natural language utterance and a non-speech input;

generating, by the one or more processors, a non-speech transcription from the non-speech input;

identifying, by the one or more processors, the user who provided the multi-modal natural language input;

generating, by the one or more processors, a speech-based transcription based on a cognitive model associated with the user, wherein the cognitive model includes information on one or more prior interactions between the user and the device;

generating, by the one or more processors, a merged transcription from the speech-based transcription and the non-speech transcription;

identifying, by the one or more processors, an entry in a context stack, from among a plurality of entries that are in the context stack and that are each indicative of context, wherein the identified entry matches information in the merged transcription;

identifying, by the one or more processors, a domain agent associated with the entry in the context stack;

determining, by the one or more processors, a request based on the merged transcription; and

communicating, by the one or more processors, the request to the domain agent, wherein the domain agent is configured to generate a response to the user.

45. (**Previously Presented**) The method of claim 44, wherein the cognitive model is a first cognitive model, and wherein the generating the speech-based transcription is based on a second cognitive model that includes information on one or more interactions between the device and a plurality of users of the device.

46. (**Currently Amended**) A device for processing natural language inputs, comprising one or more processors configured to:

receive a natural language utterance from a user;

identify the user who provided the natural language utterance;

generate a speech-based transcription based on a personal cognitive model associated with the user and a general cognitive model ~~associated with the user~~, wherein the personal cognitive model includes information on one or more prior interactions between the device and the user, and wherein the general cognitive model includes information on one or more prior interactions between the device and a plurality of users;

identify, from among a plurality of entries that are in a context stack and that are each indicative of context, an entry that matches information in the speech-based transcription;

identify a domain agent associated with the entry in the context stack;

determine a request based on the speech-based transcription; and

communicate the request to the domain agent, wherein the domain agent is configured to generate a response to the user.

47. (**Canceled**)

48. (**Previously Presented**) The device of claim 46, wherein the one or more processors are configured to generate the speech-based transcription further based on an environmental model, wherein the environmental model includes information indicative of how noisy the environment of the user is.

REMARKS

In response to the Non-Final Office Action mailed **November 28, 2012** (hereinafter, "Office Action"), claims 40 and 46 have been amended. No claims have been newly added. Therefore, claims 33-46 and 48 are pending. Support for the instant amendments is provided throughout the as-filed Specification. Thus, no new matter has been added. In view of the foregoing amendments and following comments, allowance of all the claims pending in the application is earnestly sought.

EXAMINER INTERVIEWS

Applicants thank the Examiner for the courtesies extended to Applicants' representative (Chen Li) during the telephonic interview conducted on November 15, 2012, during which time the subject matter of the application was explained and outstanding issues were discussed. During this interview, it was agreed that previous claim 47 (now canceled without prejudice or disclaimer) had allowable subject matter and that independent claims 33, 44, and 46 (as previously amended) are allowable *at least* because they recite subject matter of claim 47.

Moreover, Applicants thank the Examiner for the courtesies extended to Applicants' representative (Ngai Zhang) during the telephonic interview conducted on November 30, 2012. During this interview, it was agreed that independent claim 46 as currently amended to remove the sub-phrase "associated with the user" from the previously-recited phrase "a general cognitive model associated with the user" would not negatively affect the allowability of independent claim 46.

NONSTATUTORY OBVIOUSNESS-TYPE DOUBLE PATENTING REJECTIONS

Claims 33, 44, and 46 are rejected on the grounds of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1 and 16 of U.S. Patent No. 7,620,549, claim 1 of U.S. Patent No. 7,640,160, and claim 1 of U.S. Patent No. 8,195,468. With respect to the alleged rejections, Applicants note that the filing of a Terminal Disclaimer to obviate an alleged non-statutory double patenting rejection does not

constitute an admission that the rejection is proper. *See Quad Envtl. Tech. Corp. v. Union Sanitary Dist.*, 946 F.2d 870 (Fed. Cir. 1991). Thus, without acquiescing in the propriety of the alleged rejections and *solely* to expedite prosecution, Applicants have attached properly executed Terminal Disclaimers. Based on the agreements during the interview, independent claims 33, 44, and 46 are allowable. The dependent claims are allowable *at least* by virtue of their dependence on one of the independent claims.

CONCLUSION

Having addressed each of the foregoing rejections, it is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, the application is in condition for allowance. Notice to that effect is respectfully requested.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Respectfully submitted,

Date: **December 28, 2012**

PILLSBURY WINTHROP SHAW PITTMAN LLP

By: /Ngai B. Zhang/
Ngai B. Zhang
Registration No. 65,473

Customer No. 00909

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McLean, Virginia 22102
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PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/488,299	Filing Date 06/04/2012	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	12/28/2012	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 15	Minus	** 20	= 0	X $31 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $125 =	0	OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/RAMONA WILSON/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	13/488,299	WEIDER ET AL.	

Document Code - DISQ	Internal Document – DO NOT MAIL

TERMINAL DISCLAIMER	☐ APPROVED	☒ DISAPPROVED
Date Filed : 12/28/12	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:

3 - Tds all disapproved:

The person who signed the Td's does not have POA, 3.73(b) statement and thus not attny of record, Nor listed in the OATH, see FP 14.29.01 and 14.30.

Also resubmit Td's with these papers, NO FEE is required.

Angie Walker

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

909 7590 01/11/2013
Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

EXAMINER	
YEN, ERIC L	
ART UNIT	PAPER NUMBER
2658	

DATE MAILED: 01/11/2013

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/488,299	06/04/2012	CHRIS WEIDER	090611-0408808	7852

TITLE OF INVENTION: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$885	$300	$0	$1185	04/11/2013

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 02/11)

Meta Platforms, Inc. - Exhibit 1002
Page 204 of 281

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

909 7590 01/11/2013
Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/488,299	06/04/2012	CHRIS WEIDER	090611-0408808	7852

TITLE OF INVENTION: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$885	$300	$0	$1185	04/11/2013

EXAMINER	ART UNIT	CLASS-SUBCLASS
YEN, ERIC L	2658	704-275000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:

❑ Issue Fee

❑ Publication Fee (No small entity discount permitted)

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

❑ A check is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

❑ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Meta Platforms, Inc. - Exhibit 1002
Page 205 of 281

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/488,299	06/04/2012	CHRIS WEIDER	090611-0408808	7852

909 7590 01/11/2013

Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

EXAMINER	
YEN, ERIC L	
ART UNIT	PAPER NUMBER
2658	

DATE MAILED: 01/11/2013

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 02/11)

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/488,299	Applicant(s) WEIDER ET AL.	
	Examiner ERIC YEN	Art Unit 2658	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amendment filed 12/28/12*.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are *33-46 and 48*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov .

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/Eric Yen/
Primary Examiner, Art Unit 2658

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	13/488,299
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	June 4, 2012	2658

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	1A	5,855,000	12/29/1998	Waibel *et al.*	704	235	
	1B	5,892,900	04/06/1999	Ginter *et al.*	395	186	
	1C	6,076,059	06/13/2000	Glickman *et al.*	704	260	
	1D	6,199,043	03/06/2001	Happ	704	272	
	1E	6,236,968	05/22/2001	Kanevsky *et al.*	704	275	
	1F	6,246,990	06/12/2001	Happ	704	275	
	1G	6,301,560	10/09/2001	Masters	704	251	
	1H	6,393,403	05/21/2002	Majaniemi	704	275	
	1I	6,571,279	05/27/2003	Herz *et al.*	709	217	
	1J	6,578,022	06/10/2003	Foulger *et al.*	706	45	
	1K	6,584,439	06/24/2003	Geilhufe *et al.*	704	270	
	1L	6,601,026	07/29/2003	Appelt *et al.*	704	9	
	1M	6,631,351	10/07/2003	Ramachandran *et al.*	704	270	
	1N	6,704,396	03/09/2004	Parolkar *et al.*	379	88.17	
	1O	6,745,161	06/01/2004	Arnold *et al.*	704	7	
	1P	6,850,603	02/01/2005	Eberle *et al.*	379	88.16	
	1Q	7,027,586	04/11/2006	Bushey *et al.*	379	265.09	
	1R	7,107,218	09/12/2006	Preston	704	270	
	1S	7,130,390	10/31/2006	Abburi	379	88.17	
	1T	7,143,039	11/28/2006	Stifelman *et al.*	704	270	
	1U	7,190,770	03/13/2007	Ando *et al.*	379	88.01	
	1V	7,272,212	09/18/2007	Eberle *et al.*	379	88.17	
	1W	7,283,829	10/16/2007	Christenson *et al.*	455	461	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	DATE CONSIDERED
/E. Yen/	01/07/2013

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /E.Y./

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	13/488,299
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	June 4, 2012	2658

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	2A	7,283,951	10/16/2007	Marchisio *et al.*	704	9	
	2B	7,299,186	11/20/2007	Kuzunuki *et al.*	704	270.1	
	2C	7,321,850	01/22/2008	Wakita	704	10	
	2D	7,366,285	04/29/2008	Parolkar *et al.*	379	88.17	
	2E	7,454,608	11/18/2008	Gopalakrishnan *et al.*	713	100	
	2F	7,529,675	05/05/2009	Maes	704	270.1	
	2G	7,542,894	06/02/2009	Murata	704	9	
	2H	7,546,382	06/09/2009	Healey *et al.*	709	246	
	2I	7,640,006	12/29/2009	Portman *et al.*	455	412.1	
	2J	7,640,272	12/29/2009	Mahajan *et al.*	707	104.1	
	2K	7,684,977	03/23/2010	Morikawa	704	211	
	2L	7,729,916	06/01/2010	Coffman *et al.*	704	270	
	2M	7,729,920	06/01/2010	Chaar *et al.*	704	275	
	2N	7,748,021	06/29/2010	Obradovich	725	105	
	2O	7,801,731	09/21/2010	Odinak *et al.*	704	275	
	2P	7,831,426	11/09/2010	Bennett	704	252	
	2Q	7,873,519	01/18/2011	Bennett	704	257	
	2R	7,881,936	02/01/2011	Longe *et al.*	704	257	
	2S	7,894,849	02/22/2011	Kass *et al.*	455	550.1	
	2T	7,920,682	04/05/2011	Byrne *et al.*	379	88.18	
	2U	7,953,732	05/31/2011	Frank *et al.*	707	724	
	2V	7,984,287	07/19/2011	Gopalakrishnan *et al.*	713	100	
	2W	8,005,683	08/23/2011	Tessel *et al.*	704	275	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	DATE CONSIDERED
/E. Yen/	01/07/2013

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /E.Y./

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	13/488,299
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	June 4, 2012	2658

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	3A	8,077,975	12/13/2011	Ma *et al.*	382	187	
	3B	8,082,153	12/20/2011	Coffman *et al.*	704	270	
	3C	8,170,867	05/01/2012	Germain	704	9	
	3D	8,219,599	07/10/2012	Tunstall-Pedoe	707	955	
	3E	8,224,652	07/17/2012	Wang *et al.*	704	275	
	3F	8,326,627	12/04/2012	Kennewick *et al.*	704	257	
	3G	8,326,634	12/04/2012	Di Cristo *et al.*	704	270.1	
	3H	8,326,637	12/04/2012	Baldwin *et al.*	704	275	
	3I	8,332,224	12/11/2012	Di Cristo *et al.*	704	257	
	3J	2001/0054087	12/20/2001	Flom *et al.*	709	218	
	3K	2002/0029261	03/07/2002	Shibata	709	219	
	3L	2002/0032752	03/14/2002	Gold *et al.*	709	218	
	3M	2002/0087326	07/04/2002	Lee *et al.*	704	270.1	
	3N	2002/0173961	11/21/2002	Guerra	704	258	
	3O	2002/0184373	12/05/2002	Maes	709	228	
	3P	2003/0065427	04/03/2003	Funk *et al.*	701	1	
	3Q	2003/0161448	08/28/2003	Parolkar *et al.*	379	88.17	
	3R	2003/0212558	11/13/2003	Matula	704	260	
	3S	2003/0212562	11/13/2003	Patel *et al.*	704	275	
	3T	2003/0225825	12/04/2003	Healey *et al.*	709	203	
	3U	2004/0117804	06/17/2004	Scahill *et al.*	719	320	
	3V	2004/0140989	07/22/2004	Papageorge	345	700	
	3W	2004/0158555	08/12/2004	Seedman *et al.*	707	3	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	DATE CONSIDERED
/E. Yen/	01/07/2013

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /E.Y./

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	13/488,299
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	June 4, 2012	2658

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	4A	2005/0125232	06/09/2005	Gadd	704	270.1	
	4B	2005/0216254	09/29/2005	Gupta *et al.*	704	9	
	4C	2005/0234727	10/20/2005	Chiu	704	270.1	
	4D	2005/0283752	12/22/2005	Fruchter *et al.*	717	100	
	4E	2006/0041431	02/23/2006	Maes	704	270.1	
	4F	2006/0047509	03/02/2006	Ding *et al.*	704	231	
	4G	2006/0217133	09/28/2006	Christenson *et al.*	455	461	
	4H	2006/0285662	12/21/2006	Yin *et al.*	379	88.16	
	4I	2007/0043868	02/22/2007	Kumar *et al.*	709	226	
	4J	2007/0135101	06/14/2007	Ramati *et al.*	455	414.1	
	4K	2007/0146833	06/28/2007	Satomi *et al.*	358	537	
	4L	2007/0198267	08/23/2007	Jones *et al.*	704	257	
	4M	2008/0034032	02/07/2008	Healey *et al.*	709	203	
	4N	2008/0147410	06/19/2008	Odinak	704	270.1	
	4O	2009/0052635	02/26/2009	Jones *et al.*	379	88.02	
	4P	2009/0106029	04/23/2009	DeLine *et al.*	704	275	
	4Q	2009/0273563	11/05/2009	Pryor	345	157	
	4R	2009/0313026	12/17/2009	Coffman *et al.*	704	275	
	4S	2010/0029261	02/04/2010	Mikkelsen *et al.*	455	419	
	4T	2010/0036967	02/11/2010	Caine *et al.*	709	236	
	4U	2010/0312566	12/09/2010	Odinak *et al.*	704	275	
	4V	2012/0150636	06/14/2012	Freeman *et al.*	705	14.49	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	/E. Yen/	DATE CONSIDERED	01/07/2013

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /E.Y./

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13488299	WEIDER ET AL.
	Examiner	Art Unit
	ERIC YEN	2658

ORIGINAL		INTERNATIONAL CLASSIFICATION	
CLASS	SUBCLASS	CLAIMED	NON-CLAIMED
704	250	G 0 6 F 17 / 27 (2006.01.01)	
CROSS REFERENCE(S)		G 1 0 L 11 / 00 (2006.01.01)	
		G 1 0 L 21 / 00 (2006.01.01)	
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)	G 1 0 L 17 / 00 (2006.01.01)	
704	9 270 270.1 275		

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	33														
2	34														
3	35														
4	36														
5	37														
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7	39														
8	40														
9	41														
10	42														
11	43														
12	44														
13	45														
14	46														
15	48														

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	15	
/ERIC YEN/ Primary Examiner.Art Unit 2658	1/7/13	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	5

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13488299	WEIDER ET AL.
	Examiner	Art Unit
	ERIC YEN	2658

SEARCHED			
Class	Subclass	Date	Examiner
704	270-275	10/16/12	EY
704	9, 250, 270-275	1/7/13	EY

SEARCH NOTES		
Search Notes	Date	Examiner
Review of cases 11/200164 11/197504	11/1/126	EY

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
704	9, 250, 270-275	1/7/13	EY

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

909 7590 01/11/2013
Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/488,299	06/04/2012	CHRIS WEIDER	090611-0408808	7852

TITLE OF INVENTION: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$885	$300	$0	$1185	04/11/2013

EXAMINER	ART UNIT	CLASS-SUBCLASS
YEN, ERIC L	2658	704-275000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 Pillsbury Winthrop Shaw Pittman LLP
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: VoiceBox Technologies, Inc.
(B) RESIDENCE: (CITY and STATE OR COUNTRY): Bellevue, Washington

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ■ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:
■ Issue Fee
■ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
■ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 03-3975 (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date April 11, 2013

Typed or printed name Rachel J. Lee Registration No. 70,049

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Meta Platforms, Inc. - Exhibit 1002
Page 215 of 281

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE PATENT APPLICATION OF:	Chris WEIDER *et al.*
SERIAL NO.:	13/488,299
FILING DATE:	June 4, 2012
ATTORNEY DOCKET NO.:	090611-0408808
CONFIRMATION NO.:	7852
EXAMINER:	YEN, Eric L
ART UNIT:	2658
FOR:	Mobile Systems and Methods of Supporting Natural Language Human-Machine Interactions

Amendments to the Specification

Mail Stop Amendments
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Madam:

Please enter the following amendments and consider the following remarks in connection with the above-identified application.

Amendments to the Specification begin on page 2.

Applicants believe that no extensions of time or other fees are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned for under 37 C.F.R. § 1.136(a), and any fees required therefore (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account No. 033975 (**Ref. No. 090611-0408808**).

AMENDMENT

Amendments to the Specification: (identifying insertions and ~~deletions~~).

- Please amend paragraph **[001]**, which begins on page 1, as follows:

[001] This application is a continuation of U.S. Patent Application Serial No. 13/084,197, filed on April 11, 2011 (which issued as U.S. Patent No. 8,195,468 on June 5, 2012), which is a divisional of U.S. Patent Application Serial No. 11/212,693, entitled "Mobile Systems and Methods of Supporting Natural Language Human-Machine Interactions," filed August 29, 2005[[,]] (which issued as U.S. Patent No. 7,949,529 on May 24, 2011), the contents of which are hereby incorporated by reference in their entirety.

Respectfully submitted,

Dated: April 11, 2013 By: _____

Rachel J. Lee
Registration No.: 70,049
Attorney for Applicant(s)

Customer No. 00909
PILLSBURY WINTHROP SHAW PITTMAN LLP
P.O. Box 10500
McLean, VA 22102
Telephone: 703-770-7814
Facsimile: 703-770-7901

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	13/488,299
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	June 4, 2012	2658

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A	2005/0021470	01/27/2005	Martin *et al.*	705	51	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

403936717v1

Electronic Patent Application Fee Transmittal

Application Number:	13488299
Filing Date:	04-Jun-2012
Title of Invention:	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS
First Named Inventor/Applicant Name:	CHRIS WEIDER
Filer:	Rachel Jeong-Eun Lee/Susan Trader
Attorney Docket Number:	090611-0408808

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	2501	1	890	890
Publ. Fee- Early, Voluntary, or Normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
Submission- Information Disclosure Stmt	2806	1	90	90
		Total in USD ($)		**1280**

Electronic Acknowledgement Receipt	
EFS ID:	15489488
Application Number:	13488299
International Application Number:	
Confirmation Number:	7852
Title of Invention:	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS
First Named Inventor/Applicant Name:	CHRIS WEIDER
Customer Number:	909
Filer:	Rachel Jeong-Eun Lee/Susan Trader
Filer Authorized By:	Rachel Jeong-Eun Lee
Attorney Docket Number:	090611-0408808
Receipt Date:	11-APR-2013
Filing Date:	04-JUN-2012
Time Stamp:	11:09:25
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1280
RAM confirmation Number	8503
Deposit Account	033975
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees) Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		0408808.pdf	3275832 37f601fb6ce2df44ca27259b7b16a00944ca82d9	yes	53

Multipart Description/PDF files in .zip description

Document Description	Start	End
Issue Fee Payment (PTO-85B)	1	1
Amendment after Notice of Allowance (Rule 312)	2	2
Specification	3	3
Power of Attorney	4	4
Assignee showing of ownership per 37 CFR 3.73.	5	6
Terminal Disclaimer Filed	7	9
Transmittal Letter	10	12
Information Disclosure Statement (IDS) Form (SB08)	13	13
Transmittal Letter	14	25
Information Disclosure Statement (IDS) Form (SB08)	26	26
Transmittal Letter	27	52
Information Disclosure Statement (IDS) Form (SB08)	53	53

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	33948 ce3f1b9dc0f4d92f99feb92330fa85942964ff18	no	2

Warnings:

Information:

Total Files Size (in bytes):	3309780

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	13/488,299
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	June 4, 2012	2658

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A	7,036,128	04/25/2006	Julia *et al.*	719	317	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

403936773v1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS :	Chris WEIDER *et al.*	CONFIRMATION NO.:	7852
SERIAL NUMBER :	13/488,299	EXAMINER:	Eric L. Yen
FILING DATE :	June 4, 2012	ART UNIT:	2658
FOR :	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS		

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. § 1.97(i)

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants submit the following document listed on the attached Form PTO-1449 in accordance with 37 C.F.R. §1.97(i). While Applicants do not consider this document to be material to the patentability of any claims in the above-identified application, Applicants nonetheless submit it to comply with the spirit of 37 C.F.R. §1.56.

This document was cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided.

It is not believed that any fees are necessary for submission of this Information Disclosure Statement. However, if any fees are required, they are hereby authorized to be charged to Deposit Account No. 03-3975, Reference No. 090611-0408808.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP

By _____
Rachel J. Lee
Registration No.: 70,049

Customer No.
00909

P. O. Box 10500
McLean, Virginia 22102
Telephone: (703) 770-7900
Telefax: (703) 770-7901

Dated: April 11, 2013

Meta Platforms, Inc. - Exhibit 1002
Page 226 of 281

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	13/488,299
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	June 4, 2012	2658

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A	6,704,576	03/09/2004	Brachman *et al.*	455	503	
	B	8,370,147	02/05/2013	Kennewick et al.	704	257	
	C	2009/0276700	11/05/2009	Anderson *et al.*	715	700	
	D	2013/0054228	02/28/2013	Baldwin et al.	704	9	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

403936713v1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS :	Chris WEIDER *et al.*	CONFIRMATION NO.:	7852
SERIAL NUMBER :	13/488,299	EXAMINER:	Eric L. Yen
FILING DATE :	June 4, 2012	ART UNIT:	2658
FOR :	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS		

FURTHER SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97 and 1.98, Applicants hereby make of record in the above-identified application the document listed on the attached Form PTO-1449.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This Further Supplemental Information Disclosure Statement is being filed more than three months after the filing date of a national application other than a continued prosecution application under 37 C.F.R. § 1.53(d), or more than three months after the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, and after the mailing date of any of a Final Action under 37 C.F.R. § 1.113, a Notice of Allowance under 37 C.F.R. § 1.311, or an action that otherwise closes prosecution in the application, but on or before payment of the Issue Fee. 37 C.F.R. § 1.97(d).

I hereby certify that each item of information contained in this Further Supplemental Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Further Supplemental Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

The $180.00 fee [37 C.F.R. § 1.17(p)] is being paid with the Supplemental Information Disclosure Statement filed on even date herewith.

This document was cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided.

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP

By _____
Rachel J. Lee
Registration No.: 70,049

Customer No.
00909

P. O. Box 10500
McLean, Virginia 22102
Telephone: (703) 770-7900
Telefax: (703) 770-7901

Dated: April 11, 2013

PTO/SB/26 (08-11)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 090611-0408808

In re Application of: CHRIS WEIDER, et al.

Application No.: 13/488,299

Filed: June 4, 2012

For: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

The owner*, VoiceBox Technologies, Inc., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 7,620,549 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

expires for failure to pay a maintenance fee;
is held unenforceable;
is found invalid by a court of competent jurisdiction;
is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
has all claims canceled by a reexamination certificate;
is reissued; or
is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 65,473

Ngai Zhang — Signature — 12/28/12 — Date

Ngai B. Zhang
Typed or printed name

(703) 770-7532
Telephone Number

☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner). Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

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PTO/SB/26 (08-11)
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TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 090611-0408808

In re Application of: CHRIS WEIDER, et al.

Application No.: 13/488,299

Filed: June 4, 2012

For: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

The owner*, VoiceBox Technologies, Inc., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 7,640,160 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

expires for failure to pay a maintenance fee;
is held unenforceable;
is found invalid by a court of competent jurisdiction;
is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
has all claims canceled by a reexamination certificate;
is reissued; or
is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 65,473

Ngai Zhang — Signature — 12/28/12 — Date

Ngai B. Zhang
Typed or printed name

(703) 770-7532
Telephone Number

☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

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TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 090611-0408808

In re Application of: CHRIS WEIDER, et al.

Application No.: 13/488,299

Filed: June 4, 2012

For: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

The owner*, VoiceBox Technologies, Inc., of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 8,195,468 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

expires for failure to pay a maintenance fee;
is held unenforceable;
is found invalid by a court of competent jurisdiction;
is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
has all claims canceled by a reexamination certificate;
is reissued; or
is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record, Reg. No. 65,473

Ngai Zhang — Signature — 12/27/12 — Date

Ngai B. Zhang
Typed or printed name

(703) 770-7532
Telephone Number

☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS :	Chris WEIDER *et al.*	CONFIRMATION NO.:	7852
SERIAL NUMBER :	13/488,299	EXAMINER:	Eric L. Yen
FILING DATE :	June 4, 2012	ART UNIT:	2658
FOR :	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97 and 1.98, Applicants hereby make of record in the above-identified application the documents listed on the attached Form PTO-1449.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This Supplemental Information Disclosure Statement is being filed more than three months after the filing date of a national application other than a continued prosecution application under 37 C.F.R. § 1.53(d), or more than three months after the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, and after the mailing date of any of a Final Action under 37 C.F.R. § 1.113, a Notice of Allowance under 37 C.F.R. § 1.311, or an action that otherwise closes prosecution in the application, but on or before payment of the Issue Fee. 37 C.F.R. § 1.97(d).

Documents A and C were cited by the U.S. Patent Office in co-pending Application Serial No. 12/943,699, filed November 10, 2010, in an Office Action dated March 5, 2013. I hereby certify that no item of information contained in this Supplemental Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to my knowledge after making reasonable inquiry, no item of information contained in this Supplemental Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Supplemental Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

Please charge the $180.00 fee [37 C.F.R. § 1.17(p)] to Deposit Account No. 03-3975. In addition, please charge any fee deficiencies, or credit any overpayment, to Deposit Account No. 03-3975 as needed to ensure consideration of the Supplemental Information Disclosure Statement.

Meta Platforms, Inc. - Exhibit 1002
Page 235 of 281

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP

By _____
Rachel J. Lee
Registration No.: 70,049

Customer No.
00909

P. O. Box 10500
McLean, Virginia 22102
Telephone: (703) 770-7900
Telefax: (703) 770-7901

Dated: April 11, 2013

Meta Platforms, Inc. - Exhibit 1002
Page 236 of 281

PTO/AIA/80 (07-12)
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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

☒ Practitioners associated with Customer Number: 00909

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

☒ The address associated with Customer Number: 00909

OR

☐

Firm or Individual Name			
Address			
City			
Country			
Telephone		Email	

Assignee
VoiceBox Technologies, Inc.
11980 NE 24th Street, Suite 100
Bellevue, Washington 98005

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record
The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature	Todd Kenck	Date	4/8/13
Name	Todd Kenck	Telephone	425.968.7907
Title	CFO		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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PTO/AIA/96 (08-12)
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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Chris WEIDER et al.

Application No./Patent No.: 13/488,299 Filed/Issue Date: June 4, 2012

Titled: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

VoiceBox Technologies, Inc., a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 028549, Frame 0496, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

   1. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

   2. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature	April 11, 2013 Date
Rachel J. Lee Printed or Typed Name	70,049 Title or Registration Number

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	13/488,299	WEIDER ET AL.	

Document Code - DISQ	Internal Document – DO NOT MAIL

TERMINAL DISCLAIMER	☒ APPROVED	☐ DISAPPROVED
Date Filed : 4/11/13	**This patent is subject to a Terminal Disclaimer**	

Approved/Disapproved by:

Janice Ford

3 tds approved

U.S. Patent and Trademark Office

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/488,299	06/04/2012	CHRIS WEIDER	090611-0408808

CONFIRMATION NO. 7852

909
Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

POA ACCEPTANCE LETTER

OC000000060459271

Date Mailed: 04/16/2013

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/11/2013.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/bcrittenden/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/488,299	06/04/2012	CHRIS WEIDER	090611-0408808	7852

909 7590 04/19/2013

Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

EXAMINER	
YEN, ERIC L	

ART UNIT	PAPER NUMBER
2658	

NOTIFICATION DATE	DELIVERY MODE
04/19/2013	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket_ip@pillsburylaw.com
margaret.drosos@pillsburylaw.com

Notice of Allowability	Application No. 13/488,299	Applicant(s) WEIDER ET AL.	
	Examiner ERIC YEN	Art Unit 2658	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *IDSs filed 4/11/13*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *33-46 and 48*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov .
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

   Interim copies:

   a) ☐ All b) ☐ Some c) ☐ None of the: Interim copies of the priority documents have been received.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/Eric Yen/
Primary Examiner, Art Unit 2658

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	13/488,299
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	June 4, 2012	2658

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
/E.Y./	A	2005/0021470	01/27/2005	Martin *et al.*	705	51	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	/E. Yen/	DATE CONSIDERED	04/16/2013

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

403936717v1

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	13/488,299
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	June 4, 2012	2658

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
/E.Y./	A	6,704,576	03/09/2004	Brachman *et al.*	455	503	
/E.Y./	B	8,370,147	02/05/2013	Kennewick et al.	704	257	
/E.Y./	C	2009/0276700	11/05/2009	Anderson *et al.*	715	700	
/E.Y./	D	2013/0054228	02/28/2013	Baldwin et al.	704	9	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	DATE CONSIDERED
/E. Yen/	04/16/2013

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

403936713v1

INFORMATION DISCLOSURE CITATION IN AN APPLICATION	Docket Number	Application Number
	090611-0408808	13/488,299
	Applicant(s)	
	Chris WEIDER *et al.*	
	Filing Date	Group Art Unit
Form PTO-1449	June 4, 2012	2658

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
/E.Y./	A	7,036,128	04/25/2006	Julia *et al.*	719	317	

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	Translations YES	Translations NO

OTHER DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

EXAMINER	DATE CONSIDERED
/E. Yen/	04/16/2013

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

403936773v1

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/488,299	05/21/2013	8447607	090611-0408808	7852

909 7590 05/01/2013

Pillsbury Winthrop Shaw Pittman, LLP (NV)
PO Box 10500
McLean, VA 22102

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

CHRIS WEIDER, Everett, WA;
Richard Kennewick, Woodinville, WA;
Mike Kennewick, Bellevue, WA;
Philippe Di Cristo, Bellevue, WA;
Robert A. Kennewick, Seattle, WA;
Samuel Menaker, Bellevue, WA;
Lynn Elise Armstrong, Woodinville, WA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

Docket No.: N0484.71162US02
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Chris Weider, et al.
Patent No.:	8,447,607
Issued:	May 21, 2013
Serial No.:	13/488,299
For:	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS
Maintenance Fee:	4th Year – November 21, 2016

CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 CFR § 1.8(a)

The undersigned hereby certifies that this document is being sent via facsimile to 571-273-6500. ATTN: Receipts Accounting Div./Office of Finance, United States Patent & Trademark Office, on the 10 day of March, 2020.

Mariah M. Smith-Jones

VIA FACSIMILE (571-273-6500)
Receipts Accounting Division
Office of Finance
U.S. Patent and Trademark Office

CORRECTION OF ERROR IN SMALL ENTITY STATUS PURSUANT TO 37 C.F.R. § 1.28(c)

Sir/Madam:

In the above-identified case, through error and without deceptive intent, the Patent Office was not timely notified of a loss to entitlement to Small Entity Status for the present application that occurred prior to payment of the 4th year Maintenance Fee, and through error and without deceptive intent the 4th year Maintenance Fee was incorrectly paid under the Small Entity status. Pursuant to 37 C.F.R. §1.28(c)(1)(2), Patentee respectfully requests acceptance of the enclosed the deficiency payment.

Patentee submits herewith the deficiency in payment of $800.00 for the 4th year Maintenance Fee payment. Pursuant to 37 C.F.R. §§ 1.28(c)(1), 1.28(c)(2)(i), and 1.28(c)(2)(ii), the itemization of the deficiency payment is as follows:

Type of fee erroneously paid as small entity	Current fee amount for non-small entity	Small entity fee actually paid and date paid	Deficiency Owed Amount
4th Year Maintenance Fee	$1,600.00	$800.00 November 10, 2016	$800.00
Total Deficiency Owed			**$800.00**

In view of compliance with 37 C.F.R. §§ 1.28(c)(1), 1.28(c)(2)(i), and 1.28(c)(2)(ii), Patentee respectfully requests that the error in Small Entity status be excused. Additionally, pursuant to 37 C.F.R. § 1.28(d), it is requested that the submission of the deficiency payment be treated under 37 C.F.R. § 1.27(g)(2) as a notification of a loss of entitlement to Small Entity status.

Please charge the deficiency of $800.00 to Deposit Account Number 23/2825, under our Docket Number N0484.71162US02, in order that the 4th Year Maintenance Fee payment reflects Large Entity status.

If there is an additional fee that is not covered, please charge any deficiency to Deposit Account No. 23/2825 under Docket No. N0484.71162US02.

Respectfully submitted,

Date: March 10, 2020

By: /Andrew J. Tibbetts/

Andrew J. Tibbetts
Registration Number: 65,139
Wolf, Greenfield & Sacks, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2206
Telephone: (617) 646-8000

7966686.1

FAX COVER SHEET

TO	
COMPANY	
FAX NUMBER	15712736500
FROM	Wolf Greenfield
DATE	2020-03-10 21:48:50 GMT
RE	FW: AccuRoute Scan

COVER MESSAGE

PAGE 1/4 * RCVD AT 3/10/2020 5:49:04 PM [Eastern Daylight Time] * SVR:W-PTOFAX-002/10 * DNIS:2736500 * CSID:16176468646 * ANI:4803836933 * DURATION (mm-ss):02-58

Wolf Greenfield
SPECIALISTS IN INTELLECTUAL PROPERTY LAW

FAX COVER

**********OFFICIAL FAX**********

Date: March 10, 2020 **Number of pages** (including cover): 3

To: Attn: Maintenance Fee, Receipts Accounting Division, Office of Finance
U.S. Patent and Trademark Office

Fax No.: (571) 273-6500

Patent No.: 8,447,607

Title: MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

From: Mariah M. Smith-Jones

Direct dial: 617.646.8470

Our File #: N0484.71162US02

CERTIFICATE OF FACSIMILE TRANSMISSION 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being transmitted via facsimile to the attention of the Receipts Accounting Division, Office of Finance, FAX number (571) 273-6500, at the United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450, in accordance with 37 C.F.R. §1.6(d), on the _10th_ day of March, 2020.

Mariah M. Smith-Jones

ORIGINAL DOCUMENTS WILL NOT BE MAILED.

MESSAGE: Transmitted herewith is a Correction of Error In Small Entity Status Pursuant to 37 C.F.R. § 1.28(c) and fee deficiency payment. Please note the 4th year maintenance fee was paid on November 10, 2016. Thank you.

This transmission contains confidential information intended for use only by the above-named recipient. Reading, discussing, distributing, or copying this message by anyone other than the named recipient, or his or her employees or agents, is strictly prohibited. If you have received this fax in error, please notify us immediately by telephone (collect), and return the original message to us at the address below via the U.S. Postal Service.

IF YOU DID NOT RECEIVE ALL OF THE PAGES OF THIS TRANSMISSION, OR IF ANY OF THE PAGES ARE ILLEGIBLE, PLEASE CALL 617.646.8000 IMMEDIATELY.

Wolf Greenfield Fax Number: 617.646.8646

Wolf, Greenfield & Sacks, P.C. | 600 Atlantic Avenue | Boston, Massachusetts 02210-2206
617.646.8000 | fax 617.646.8646 | www.wolfgreenfield.com

PATENTS TRADEMARKS COPYRIGHTS TECHNOLOGY TRANSFERS LITIGATION

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/488,299	06/04/2012	CHRIS WEIDER	090611-0408808	7852

909 7590 07/28/2020

Pillsbury Winthrop Shaw Pittman, LLP
PO Box 10500
McLean, VA 22102

EXAMINER	
YEN, ERIC L	

ART UNIT	PAPER NUMBER
2658	

NOTIFICATION DATE	DELIVERY MODE
07/28/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket_ip@pillsburylaw.com

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

In re Patent No. 8,447,607	:	
Issue Date: May 21, 2013	:	
Application No. 13/488,299	:	NOTICE
Filed: June 04, 2012	:	
Attorney Docket No. 090611-0408808	:	

This is a notice regarding the request for acceptance of a fee deficiency submission under 37 CFR 1.28(c) filed March 10, 2020.

The present request is not signed by an attorney/agent of record. However, in accordance with 37 CFR 1.34(a), the signature of Andrew J. Tibbetts appearing on the request shall constitute a representation to the United States Patent and Trademark Office that he or she is authorized to represent the particular party on whose behalf he or she acts

The Office no longer investigates or rejects original or reissue applications under 37 CFR 1.56. 1098 Off. Gaz. Pat. Office 502 (January 3, 1989). Therefore, nothing in this Notice is intended to imply that an investigation was done.

The fee deficiency submission under 37 CFR 1.28(c) is hereby **ACCEPTED**.

This patent file is no longer entitled to small entity status. Accordingly, all future fees paid in this patent file must be paid at the undiscounted rate.

Since the address in the present request differs from the correspondence address of record, a courtesy copy of this Notice is being mailed to the address given in the request. However, applicant should note that a change in the correspondence address will not affect the fee address. Therefore, if applicant desires to receive future correspondence, which **may** be mailed, regarding maintenance fees for the above-identified patent, a "Fee Address Indication" form and/or a "Request for Customer Number" form(s) should be submitted (See USPTO form numbers PTO/SB/47 and/or PTO/SB/125).

Telephone inquiries concerning this decision should be directed to Jonya Smalls, Paralegal Specialist at 571-272-1619.

/JONYA SMALLS/
Jonya Smalls
Paralegal Specialist, OPET

Cc: Andrew J. Tibbetts
Wolf, Greenfield, & Sacks, P.C.
600 Atlantic Avenue
Boston Massachusettes 02210-2206

Transmittal Communication on Petition	Application/Control No. 13/488,299	Applicant(s)/Patent Under Reexamination WEIDER et al.	
	Deciding Official YEN, ERIC L	Office of Petitions OPET	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

(ADDITIONAL PARTY'S CORRESPONDENCE ADDRESS)

Andrew J. Tibbetts
Wolf, Greenfield, & Sacks, P.C.
600 Atlantic Avenue
Boston Massachusettes 02210-2206

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified Application/Patent.

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT6700444

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
NUANCE COMMUNICATIONS, INC.	01/01/2021

RECEIVING PARTY DATA

Name:	VOICE INVENTIONS, LLC
Street Address:	2 EXECUTIVE DRIVE
Internal Address:	STE. 270
City:	FORT LEE
State/Country:	NEW JERSEY
Postal Code:	07024

PROPERTY NUMBERS Total: 29

Property Type	Number
Patent Number:	7398209
Patent Number:	7502738
Patent Number:	7809570
Patent Number:	8015006
Patent Number:	8112275
Patent Number:	8140327
Patent Number:	8155962
Patent Number:	8731929
Patent Number:	9734825
Patent Number:	7693720
Patent Number:	9031845
Patent Number:	7640160
Patent Number:	7917367
Patent Number:	8326634
Patent Number:	8849670
Patent Number:	9263039
Patent Number:	7620549
Patent Number:	8332224
Patent Number:	8620659

Property Type	Number
Patent Number:	9626959
Patent Number:	7949529
Patent Number:	8195468
Patent Number:	8447607
Patent Number:	8849652
Patent Number:	9495957
Patent Number:	7634409
Patent Number:	7983917
Patent Number:	8069046
Patent Number:	8150694

CORRESPONDENCE DATA

Fax Number:

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.

Email: eddie.weiss@voiceinventions.com
Correspondent Name: EDWARD WEISS
Address Line 1: 2 EXECUTIVE DRIVE
Address Line 2: STE. 270
Address Line 4: FORT LEE, NEW JERSEY 07024

NAME OF SUBMITTER:	EDWARD WEISS
SIGNATURE:	/Edward Weiss/
DATE SIGNED:	05/10/2021
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 4
source=2020-12-24 - Assignment Nuance to Voice Inventions#page1.tif
source=2020-12-24 - Assignment Nuance to Voice Inventions#page2.tif
source=2020-12-24 - Assignment Nuance to Voice Inventions#page3.tif
source=2020-12-24 - Assignment Nuance to Voice Inventions#page4.tif

PATENT ASSIGNMENT AGREEMENT

This PATENT ASSIGNMENT AGREEMENT (the "Assignment Agreement") between Nuance Communications, Inc., a Delaware corporation, with an address at One Wayside Road, Burlington, MA 01803 ("Assignor"), and Voice Inventions, LLC, a Texas Limited Liability Company, with an address at 2 Executive Drive, Suite 270, Fort Lee, NJ 07024 ("Assignee").

RECITALS

WHEREAS the parties have entered into a certain Patent Purchase and Licensing Agreement (the "Purchase Agreement"), with an effective date of January 1, 2021;

WHEREAS Assignor possesses all legal rights, title, and interests in and to the patents listed in Exhibit A (the "Assigned Patent Portfolio") to this Assignment Agreement;

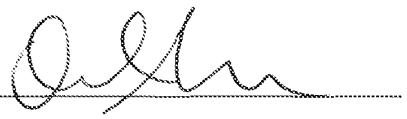
WHEREAS the parties desire to effectuate the assignment and transfer of the Assigned Patent Portfolio to Assignee such that Assignee shall acquire, and thus hereby acquires, all of Assignor's worldwide rights, title, and interests in and to the Assigned Patent Portfolio; and

WHEREAS the parties further desire that the assignment of the Assigned Patent Portfolio be undertaken in a such a manner as to allow Assignee to make such assignment a matter of record in the appropriate domestic and international patent offices;

NOW THEREFORE, for good and valuable consideration, the receipt of which by Assignor is hereby acknowledged, Assignor hereby sells, assigns, and transfers to Assignee, and Assignee hereby purchases and accepts from Assignor, all of Assignor's worldwide rights, title and interest, in and to the Assigned Patent Portfolio, including any and all of Assignor's rights to sue for past damages, subject to the terms and conditions of the Purchase Agreement.

IN WITNESS WHEREOF, intending to be legally bound, Assignor has caused this Assignment Agreement to by executed by its duly authorized representative and made effective, as of January 1, 2021.

Nuance Communications, Inc.
Assignor

By 

Name: David Greenbaum
Title: VP, Litigation & IP

Exhibit A

Assigned Patent Portfolio

	COUNTRY	TITLE	APPLICATION NUMBER	DATE FILED	PATENT NUMBER
1	US	SYSTEMS AND METHODS FOR RESPONDING TO NATURAL LANGUAGE SPEECH UTTERANCE	10/452,147	Jun 3, 2003	7,398,209
2	US	SYSTEMS AND METHODS FOR RESPONDING TO NATURAL LANGUAGE SPEECH UTTERANCE	11/747,547	May 11, 2007	7,502,738
3	US	SYSTEMS AND METHODS FOR RESPONDING TO NATURAL LANGUAGE SPEECH UTTERANCE	12/168,554	Jul 7, 2008	7,809,570
4	US	SYSTEMS AND METHODS FOR PROCESSING NATURAL LANGUAGE SPEECH UTTERANCES WITH CONTEXT-SPECIFIC DOMAIN AGENTS	12/130,397	May 30, 2008	8,015,006
5	US	SYSTEM AND METHOD FOR USER-SPECIFIC SPEECH RECOGNITION	12/765,733	Apr 22, 2010	8,112,275
6	US	SYSTEM AND METHOD FOR FILTERING AND ELIMINATING NOISE FROM NATURAL LANGUAGE UTTERANCES TO IMPROVE SPEECH RECOGNITION AND PARSING	12/765,753	Apr 22, 2010	8,140,327
7	US	METHOD AND SYSTEM FOR ASYNCHRONOUSLY PROCESSING NATURAL LANGUAGE UTTERANCES	12/838,982	Jul 19, 2010	8,155,962
8	US	AGENT ARCHITECTURE FOR DETERMINING MEANINGS OF NATURAL LANGUAGE UTTERANCES	12/365,516	Feb 4, 2009	8,731,929
9	US	SYSTEM AND METHOD FOR PROCESSING NATURAL LANGUAGE UTTERANCES	14/278,627	May 15, 2014	9,734,825
10	US	MOBILE SYSTEMS AND METHODS FOR RESPONDING TO NATURAL LANGUAGE SPEECH UTTERANCES	10/618,633	Jul 15, 2003	7,693,720
11	US	MOBILE SYSTEMS AND METHODS FOR RESPONDING TO NATURAL LANGUAGE SPEECH UTTERANCE	12/705,311	Feb 12, 2010	9,031,845

12	US	SYSTEMS AND METHODS FOR RESPONDING TO NATURAL LANGUAGE SPEECH UTTERANCE	11/197,504	Aug 5, 2005	7,640,160
13	US	SYSTEMS AND METHODS FOR RESPONDING TO NATURAL LANGUAGE SPEECH UTTERANCE	12/617,506	Nov 12, 2009	7,917,367
14	US	SYSTEMS AND METHODS FOR RESPONDING TO NATURAL LANGUAGE SPEECH UTTERANCE	13/019,834	Feb 2, 2011	8,326,634
15	US	SYSTEMS AND METHODS FOR RESPONDING TO NATURAL LANGUAGE SPEECH UTTERANCE	13/690,895	Nov 30, 2012	8,849,670
16	US	SYSTEMS AND METHODS FOR RESPONDING TO NATURAL LANGUAGE SPEECH UTTERANCE	14/500,723	Sep 29, 2014	9,263,039

17	US	SYSTEM AND METHOD OF SUPPORTING ADAPTIVE MISRECOGNITION IN CONVERSATIONAL SPEECH	11/200,164	Aug 10, 2005	7,620,549
18	US	SYSTEM AND METHOD OF SUPPORTING ADAPTIVE MISRECOGNITION IN CONVERSATIONAL SPEECH	12/571,795	Oct 1, 2009	8,332,224
19	US	SYSTEM AND METHOD OF SUPPORTING ADAPTIVE MISRECOGNITION IN CONVERSATIONAL SPEECH	13/022,370	Feb 7, 2011	8,620,659
20	US	SYSTEM AND METHOD OF SUPPORTING ADAPTIVE MISRECOGNITION IN CONVERSATIONAL SPEECH	14/143,903	Dec 30, 2013	9,626,959

21	US	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS	11/212,693	Aug 29, 2005	7,949,529
22	US	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS	13/084,197	Apr 11, 2011	8,195,468
23	US	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS	13/488,299	Jun 4, 2012	8,447,607
24	US	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS	13/898,045	May 20, 2013	8,849,652

25	US	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS	14/467,641	Aug 25, 2014	9,495,957

26	US	DYNAMIC SPEECH SHARPENING	11/513,269	Aug 31, 2006	7,634,409
27	US	DYNAMIC SPEECH SHARPENING	12/608,544	Oct 29, 2009	7,983,917
28	US	DYNAMIC SPEECH SHARPENING	12/608,572	Oct 29, 2009	8,069,046
29	US	SYSTEM AND METHOD FOR PROVIDING AN ACOUSTIC GRAMMAR TO DYNAMICALLY SHARPEN SPEECH INTERPRETATION	13/150,977	Jun 1, 2011	8,150,694

30	CN	SYSTEMS AND METHODS FOR RESPONDING TO NATURAL LANGUAGE SPEECH UTTERANCE	2006800362006	Aug 4, 2006	ZL200680036200.6
31	CN	SYSTEMS AND METHODS FOR RESPONDING TO NATURAL LANGUAGE SPEECH UTTERANCE	2015102059396	Aug 4, 2006	ZL201510205939.6
32	CN	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS	200680038560	Aug 29, 2006	200680038560

PTO/AIA/81A (02-15)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

PATENT - POWER OF ATTORNEY OR REVOCATION OF POWER OF ATTORNEY WITH A NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

Patent Number	8447607
Issue Date	05/21/13
First Named Inventor	Weider, Chris
Title	Mobile systems and methods of supporting natural language
Attorney Docket No.	9032-0021

I hereby revoke all previous powers of attorney given in the above-identified patent.

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint Practitioner(s) associated with the Customer Number identified in the box at right as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith: 174889

OR

☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Practitioner(s) Name	Registration Number

Please recognize or change the correspondence address for the above-identified patent to:

☒ The address associated with the above-identified Customer Number.

OR

☐ The address associated with the Customer Number identified in the box at right:

OR

☐ Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the:

☐ Applicant.

OR

☒ Patent owner.

Statement under 37 CFR 3.73(c) (Form PTO/AIA/96) submitted herewith or filed on _____.

SIGNATURE of Applicant or Patent Owner

Signature	/Jeff Ronaldi/	Date	02/27/2023
Name	Jeff Ronaldi	Telephone	(571) 334-1112
Title and Company	Manager, Dialect, LLC		

NOTE: Signatures of all the applicants or patent owners of the entire interest or their representative(s) are required. If more than one signature is required, submit multiple forms, check the box below, and identify the total number of forms submitted in the blank below.

☐ A total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public, which is to update (and by the USPTO to process) the file of a patent or reexamination proceeding. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Dialect, LLC

Application No./Patent No.: 8447607 Filed/Issue Date: 05/21/13

Titled: Mobile systems and methods of supporting natural language human-machine interactions

Dialect, LLC, a limited liability company

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. ☑ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Weider, Chris et al. To: VoiceBox Technologies, Inc.

The document was recorded in the United States Patent and Trademark Office at
Reel 028549, Frame 0496, or for which a copy thereof is attached.

2. From: VoiceBox Technologies, Inc. To: VoiceBox Technologies Corporation

The document was recorded in the United States Patent and Trademark Office at
Reel 032620, Frame 0956, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: VoiceBox Technologies Corporation To: Nuance Communications, Inc.

The document was recorded in the United States Patent and Trademark Office at
Reel 034703, Frame 0429, or for which a copy thereof is attached.

4. From: Nuance Communications, Inc. To: Voice Inventions, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 056185, Frame 0742, or for which a copy thereof is attached.

5. From: Voice Inventions, LLC To: Dialect, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 060820, Frame 0857, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Jeff Ronaldi/	02/27/2023
Signature	Date
Jeff Ronaldi	Manager, Dialect, LLC
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	47603742
Application Number:	13488299
International Application Number:	
Confirmation Number:	7852
Title of Invention:	MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS
First Named Inventor/Applicant Name:	CHRIS WEIDER
Customer Number:	909
Filer:	David Alexander Gerasimow
Filer Authorized By:	
Attorney Docket Number:	090611-0408808
Receipt Date:	28-FEB-2023
Filing Date:	04-JUN-2012
Time Stamp:	13:23:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	8447607.pdf	206840 9b6ce7b77049c8fedf8c02aa9dbe331bcf3bd47b	no	2
Warnings:					

Information:					
2	Assignee showing of ownership per 37 CFR 3.73	8447607-aia0096.pdf	201054 e9b23b1bf239cc967307dd2e7bd75d42b524b853	no	3
Warnings:					
Information:					
		Total Files Size (in bytes):	407894		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/488,299	06/04/2012	CHRIS WEIDER	090611-0408808

CONFIRMATION NO. 7852
IMPROPER CPOA LETTER

174889
Carbon Research, Inc (aka Research Carbon, Inc)
43 Luke St
Prospect, CT 06712

OC000000137526842

Date Mailed: 03/07/2023

NOTICE REGARDING POWER OF ATTORNEY

This is in response to the power of attorney filed 02/28/2023. The power of attorney in this application is not accepted for the reason(s) listed below:

- The person(s) appointed in the power of attorney is/are not registered to practice before the U.S. Patent and Trademark Office.

/sltorres/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

174889
Carbon Research, Inc (aka Research Carbon, Inc)
43 Luke St
Prospect, CT 06712
UNITED STATES

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court for the District of Delaware on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
	4/3/2023	for the District of Delaware

PLAINTIFF	DEFENDANT
Dialect, LLC	Google LLC and Alphabet Inc.

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 See Attached		
2		
3		
4		
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	US 7,398,209 B2	7/8/2008	Dialect, LLC
2	US 7,502,738 B2	3/10/2009	Dialect, LLC
3	US 7,640,160 B2	12/29/2009	Dialect, LLC
4	US 7,693,720 B2	4/6/2010	Dialect, LLC
5	US 8,015,006 B2	9/6/2011	Dialect, LLC
6	US 8,447,607 B2	5/21/2013	Dialect, LLC
7	US 8,849,652 B2	9/30/2014	Dialect, LLC
8	US 9,031,845 B2	5/12/2015	Dialect, LLC

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 **Director of the U.S. Patent and Trademark Office** **P.O. Box 1450** **Alexandria, VA 22313-1450**	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court District of Delaware on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
	4/3/2023	District of Delaware

PLAINTIFF	DEFENDANT
Cedar Lane Technologies Inc.	Best Lighting Products Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	7,391,159	6/24/2008	Cedar Lane Technologies Inc.
2			Cedar Lane Technologies Inc.
3			Cedar Lane Technologies Inc.
4			Cedar Lane Technologies Inc.
5			Cedar Lane Technologies Inc.

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 **Director of the U.S. Patent and Trademark Office** **P.O. Box 1450** **Alexandria, VA 22313-1450**	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court District of Delaware on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
	4/3/2023	District of Delaware

PLAINTIFF	DEFENDANT
Cedar Lane Technologies Inc.	Hubbell Incorporated

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	7,391,159	6/24/2008	Cedar Lane Technologies Inc.
2			Cedar Lane Technologies Inc.
3			Cedar Lane Technologies Inc.
4			Cedar Lane Technologies Inc.
5			Cedar Lane Technologies Inc.

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
13/488,299	**11/27/2023 03:22:04 PM Z ET**	**090611-0408808**

Title of Invention

MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	8447607
CONFIRMATION #	7852	FILED BY	David Gerasimow
PATENT CENTER #	63384881	FILING DATE	06/04/2012
CUSTOMER #	174889	FIRST NAMED INVENTOR	CHRIS WEIDER
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	-

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
8447607.pdf	2	Power of Attorney	208 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
8447607.pdf	8BE90028E1B63F5F565C6A839668E2C12AFC580E49B4DFC5D5CC935795C06EB226D3A847EEB4D71598F78D22EC763DB96F5BEC8C04960DC305D7D5E5D07BC524

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized

by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/AIA/81A (02-15)
Approved for use through 03/31/2021. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

PATENT - POWER OF ATTORNEY OR REVOCATION OF POWER OF ATTORNEY WITH A NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

Patent Number	8447607
Issue Date	05/21/13
First Named Inventor	Weider, Chris
Title	Mobile systems and methods of supporting natural language
Attorney Docket No.	9032-0021

I hereby revoke all previous powers of attorney given in the above-identified patent.

☐ A Power of Attorney is submitted herewith.

OR

☒ I hereby appoint Practitioner(s) associated with the Customer Number identified in the box at right as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith: 174899

OR

☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s) with respect to the patent identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Practitioner(s) Name	Registration Number

Please recognize or change the correspondence address for the above-identified patent to:

☒ The address associated with the above-identified Customer Number.

OR

☐ The address associated with the Customer Number identified in the box at right:

OR

☐ Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the:

☐ Applicant.

OR

☒ Patent owner.

Statement under 37 CFR 3.73(c) (Form PTO/AIA/96) submitted herewith or filed on 02/28/2023.

SIGNATURE of Applicant or Patent Owner

Signature	/Ieff Ronaldi/	Date	11/06/2023
Name	Ieff Ronaldi	Telephone	(571) 334-1112
Title and Company	Manager, Dialect, LLC		

NOTE: Signatures of all the applicants or patent owners of the entire interest or their representative(s) are required. If more than one signature is required, submit multiple forms, check the box below, and identify the total number of forms submitted in the blank below.

☐ A total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public, which is to update (and by the USPTO to process) the file of a patent or reexamination proceeding. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Privacy Act Statement

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1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/488,299	06/04/2012	CHRIS WEIDER	9032-0021

CONFIRMATION NO. 7852

174899
The Law Offices of David A. Gerasimow, P.C.
211 W. Wacker Dr.
Ste. 1717
Chicago, IL 60606

POA ACCEPTANCE LETTER

OC000000065478746

Date Mailed: 12/07/2023

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 11/27/2023.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/ytdemisse/

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
13/488,299	**12/14/2023 03:24:15 PM Z ET**	**9032-0021**

Title of Invention

MOBILE SYSTEMS AND METHODS OF SUPPORTING NATURAL LANGUAGE HUMAN-MACHINE INTERACTIONS

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	8447607
CONFIRMATION #	7852	FILED BY	David Gerasimow
PATENT CENTER #	63618944	FILING DATE	06/04/2012
CUSTOMER #	174899	FIRST NAMED INVENTOR	CHRIS WEIDER
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	-

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
sb0047 - 8447607.pdf	2	Maintenance Fee Address Change	293 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
sb0047 - 8447607.pdf	07BC2AE9D33560E36DF699E25F38D9FC372FFB4F9B6D4E0D B27F0BCB9F2AD15B6D5BBC4E9AC63346A3D84331CFB9CA66 624AB3319B8AE7D0C9DC68500C941F2C

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Doc Code: MFEE.C.AD
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PTO/SB/47 (11-21)
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PATENT NUMBER (if known)	APPLICATION NUMBER
8447607	13/488,299

Completed by (check one):

☐ Applicant/Inventor — /David A. Gerasimow/ (Signature)

☑ Attorney or agent of record — 57,512 (Reg. No.) — David A. Gerasimow (Typed or printed name)

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