



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.
15/386,333	12/21/2016	Nancy Yi Liang	P34156-US	9792
136714 7590 07/30/2018 Pierce Atwood LLP (Attn: Amazon Docketing) Attn: Patent Docketing (Amazon) 100 Summer Street Suite 2250 Boston, MA 02110			EXAMINER GODBOLD, DOUGLAS	
			ART UNIT 2658	PAPER NUMBER
			NOTIFICATION DATE 07/30/2018	DELIVERY MODE 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):

patent@pierceatwood.com

Office Action Summary	Application No. 15/386,333	Applicant(s) LIANG ET AL.	
	Examiner DOUGLAS GODBOLD	Art Unit 2658	AIA (First Inventor to File) Status Yes

-- 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 MONTHS 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 29 May 2018.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were 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) 1,4,5,8,9,13,17,19 and 21-32 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.

6) ☒ Claim(s) 1 and 4 is/are allowed.

7) ☒ Claim(s) 5,8,9,13,17,19,22-24 and 26-32 is/are rejected.

8) ☒ Claim(s) 21 and 25 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 ____ 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).

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)).

** 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/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date ____.

3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.

4) ☐ Other: ____.

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 29 May 2018 has been entered.

Response to Amendment

3. The amendment filed 29 May 2018 has been accepted and considered in this office action. Claims 1, 4, 5, 8, 9, 13, 17, and 19 have been amended, claims 2, 3, 6, 7, 10-12, 14-16, 18, and 20 cancelled, and 21-32 added.

Response to Arguments

4. Applicant's arguments with respect to claims 5 and 13 have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection.

Claim Rejections - 35 USC § 112

5. The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 21-24 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

7. Claims 21-24 each introduce a limitation that "receives second audio data" and then further limitations performing actions on "the second audio data." However, claim 5, from which 21-24 depend, generates "a second audio data." Thus it is unclear which "the second audio data" the further limitations of claims 21-24 refer to. For this reason, claims 21-24 are indefinite.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claim 5 and 22 is/are rejected under 35 U.S.C. 103 as being unpatentable over Shin (US PAP 2017/0083281) in view of Ahn et al (US PAP 2014/0222432) and further in view of Buck et al. (US PAP 2009/0254342).

10. Consider claim 5, Shin teaches a system (figure 3) comprising:
at least one processor (processor 120); and
at least one memory including instructions (memory 130) that, when executed by the at least one processor, cause the system to:
receive first audio data representing a first utterance (0037, 48, voice input from user);
determine first text data responsive to the first utterance; (0037, 49, select output scheme based on input characteristics)
perform text-to-speech (TTS) processing on the first text data to generate second audio data (0048, TTS, 0037, 49, select output scheme based on input characteristics);
cause a first device to output audio corresponding to the second audio data (0037, 49, 52, output speech using output scheme);
Shin does not specifically teach wherein the at least one memory further include instructions, that when executed by the at least one processor, further cause the system to:
receive third audio data representing a second utterance;

determine the second utterance corresponds to a request to increase an output speed of audio corresponding to the first text data; and

cause a first device to increase an output speed of the audio.

In the same field of speech synthesis, Ahn teaches wherein the instructions further cause the at least one processor to:

receive third audio data representing a second utterance (0047, user may say "can you speak faster and more quietly?");

determine the second utterance corresponds to a request to increase an output speed of audio corresponding to the first text data (0047, user may say "can you speak faster and more quietly?" and system will cause output to be faster and quieter); and

cause a first device to increase an output speed of the audio (0047, user may say "can you speak faster and more quietly?" and system will cause output to be faster and quieter).

Therefore it would have been obvious to one of ordinary skill in the art at the time of effective filing to allow for users to change output via a command as taught by Ahn in the system of Shin in order to allow for the user to customize the output scheme (Ahn 0047).

Shin and Ahn do not specifically teach after the first device has begun outputting the audio, but prior to the first device completing outputting the audio, receive the third audio data.

In the same field of responding to speech commands, Buck teaches after the first device has begun outputting the audio, but prior to the first device completing outputting

the audio, receive the third audio data (0013-15, user may "barge-in" with a command even when system is outputting speech).

Therefore it would have been obvious to one of ordinary skill in the art at the time of effective filing to use barge-in capabilities as taught by Buck in the system of Shin and Ahn in order to make the users interaction with the system of more convenient (Buck 0007).

11. Consider claim 22, Ahn teaches The system of claim 5, wherein the at least one memory further includes instructions that, when executed by the at least one processor, further cause the system to:

- receive second audio data representing a second utterance (0047, user may say "can you speak faster and more quietly");

- perform automatic speech recognition (ASR) processing on the second audio data to generate second text data (0032, speech recognition);

- perform natural language understanding (NLU) processing on the second text data to generate NLU results data (0032, checking the meaning of the text generated from speech);

- determine the NLU results data represents a first speed that content is to be output at (0047, i.e. one step faster);

- determine first content responsive to the second utterance (0046 select appropriate content); and

cause the first content to be output at the first speed (0047, play content one step faster).

12. Claims 8, 9, and 24 is/are rejected under 35 U.S.C. 103 as being unpatentable over Shin, Ahn, and Buck as applied to claim 5 above, and further in view of Raitio et al. (US PAP 2017/0358301).

13. Consider claim 8, Shin, Ahn and Buck teach The system of claim 5, but do not specifically teach wherein the at least one memory further includes instructions that, when executed by the at least one processor, further cause the system to:

- determine user profile data associated with the first utterance;
- determine an electronic calendar associated with the user profile data;
- determine the electronic calendar indicates the first user will be busy within a threshold amount of time from when the first audio data was received; and
- perform TTS processing on the first text data further based at least in part on the electronic calendar indicating the first user will be busy within the threshold amount of time.

In the same field of responding to speech commands, Raitio teaches wherein the at least one memory further includes instructions that, when executed by the at least one processor, further cause the system to:

- determine user profile data associated with the first utterance (0213 user profile);

determine an electronic calendar associated with the user profile data (0251, users calendar);

determine the electronic calendar indicates the first user will be busy within a threshold amount of time from when the first audio data was received (0252, calendar shows user currently in a meeting); and

perform TTS processing on the first text data further based at least in part on the electronic calendar indicating the first user will be busy within the threshold amount of time (0252, generate speech using a whispered voice).

Therefore it would have been obvious to one of ordinary skill in the art at the time of effective filing to use calendar data to influence TTS processing as taught by Raitio in the system of Shin, Ahn and Buck in order to prevent loud speech from being generated at times when it is not appropriate (Raitio 0003).

14. Consider claim 9, Raitio teaches the system of claim 8, wherein the at least one memory further includes instructions that, when executed by the at least one processor, further cause the system to: determine the electronic calendar includes an entry with a starting time prior to a first time at which an entirety of the audio would be output using default characteristics (0252, generate speech using a whispered voice if determined by calendar user is in a meeting).

15. Consider claim 24, Shin teaches the system of claim 5, wherein the at least one memory further includes instructions that, when executed by the at least one processor, further cause the system to:

- receive second audio data representing a second utterance (0037, 48, voice input from user);

- determine second text data responsive to the second utterance (0037, 49, select output content and scheme based on input characteristics).

However Shin, Ahn, and Buck do not specifically teach

- determine user profile data associated with the second audio data;
- determine a geographic location represented in the user profile data; and
- perform TTS processing on the second text data based at least in part on the geographic location.

In the same field of responding to speech commands, Raitio teaches

- determine user profile data associated with the second audio data (0213 user profile);

- determine a geographic location represented in the user profile data (0251, user location data); and

- perform TTS processing on the second text data based at least in part on the geographic location (0251, activate whisper setting if user is in a library for example).

Therefore it would have been obvious to one of ordinary skill in the art at the time of effective filing to use location data to influence TTS processing as taught by Raitio in

the system of Shin, Ahn and Buck in order to prevent loud speech from being generated at locations where it is not appropriate (Raitio 0003).

16. Claim 23 is/are rejected under 35 U.S.C. 103 as being unpatentable over Shin, Ahn, and Buck as applied to claim 5 above, and further in view of Lau et al. (US PAP 2011/00223893).

17. Consider claim 23, Ahn teaches the system of claim 5, wherein the at least one memory further includes instructions that, when executed by the at least one processor, further cause the system to:

- receive second audio data representing a second utterance (0047, user may say command to change output "can you speak faster and more quietly");

- perform automatic speech recognition (ASR) processing on the second audio data to generate second text data (0032, speech recognition);

- perform natural language understanding (NLU) processing on the second text data to generate NLU results data (0032, checking the meaning of the text generated from speech);

- determine first content responsive to the second utterance (0046 select appropriate content);

- However, Shin, Ahn, and Buck do not specifically teach

- determine the NLU results data represents at least a first portion to be omitted from content to be output; and

cause the first content to be output without the at least a first portion.

In the same field of processing audio commands, Lau teaches

determine the NLU results data represents at least a first portion to be omitted from content to be output (00140, "skip" command can be detected); and

cause the first content to be output without the at least a first portion (0140, skipping audio in response to skip command).

Therefore it would have been obvious to one of ordinary skill in the art at the time of effective filing to use skip commands as taught by Lau in the system of Shin, Ahn, and Buck in order to allow for hands free manipulation of content (Lau 0141).

18. Claim 13, 17, and 28 is/are rejected under 35 U.S.C. 103 as being unpatentable over Shin in view of Raitio.

19. Consider claim 13, Shin teaches a computer implemented method comprising:
receiving first audio data representing a first utterance (0037, 48, voice input from user);

determining first text data responsive to the first utterance; (0037, 49, select output scheme based on input characteristics)

performing text-to-speech (TTS) processing on the first text data (0048, TTS, 0037, 49, select output scheme based on input characteristics).

Shin does not specifically teach

determining user profile data associated with the first utterance;

determining an electronic calendar associated with the user profile data;
determining the electronic calendar indicates the first user will be busy within a threshold amount of time from when the first audio data was received; and
performing TTS processing on the first text data further based at least in part on the electronic calendar indicating the first user will be busy within the threshold amount of time.

In the same field of responding to speech commands, Raitio teaches
determining user profile data associated with the first utterance (0213 user profile);

determining an electronic calendar associated with the user profile data (0251, users calendar);

determining the electronic calendar indicates the first user will be busy within a threshold amount of time from when the first audio data was received (0252, calendar shows user currently in a meeting); and

performing TTS processing on the first text data further based at least in part on the electronic calendar indicating the first user will be busy within the threshold amount of time (0252, generate speech using a whispered voice).

Therefore it would have been obvious to one of ordinary skill in the art at the time of effective filing to use calendar data to influence TTS processing as taught by Raitio in the system of Shin in order to prevent loud speech from being generated at times when it is not appropriate (Raitio 0003).

20. Consider claim 17, Raitio teaches the computer implemented method of claim 13, further comprising:

determining the electronic calendar includes an entry with a starting time prior to a first time at which an entirety of the audio would be output using default characteristics (0252, generate speech using a whispered voice if determined by calendar user is in a meeting).

21. Consider claim 28, Shin teaches the computer implemented method of claim 13, further comprising:

receiving second audio data representing a second utterance (0037, 48, voice input from user);

determining second text data responsive to the second utterance (0037, 49, select output content and scheme based on input characteristics).

However Shin does not specifically teach

determining user profile data associated with the second audio data;

determining a geographic location represented in the user profile data; and

performing TTS processing on the second text data based at least in part on the geographic location.

In the same field of responding to speech commands, Raitio teaches

determining user profile data associated with the second audio data (0213 user profile);

determining a geographic location represented in the user profile data (0251, user location data); and

performing TTS processing on the second text data based at least in part on the geographic location (0251, activate whisper setting if user is in a library for example).

Therefore it would have been obvious to one of ordinary skill in the art at the time of effective filing to use location data to influence TTS processing as taught by Raitio in the system of Shin, Ahn and Buck in order to prevent loud speech from being generated at locations where it is not appropriate (Raitio 0003).

22. Claims 19 and 26 is/are rejected under 35 U.S.C. 103 as being unpatentable over Shin and Raitio as applied to claim 13 above, and further in view of Ahn.

23. Consider claim 19, Shin and Raitio teach the computer implemented method of claim 13, but do not specifically teach further comprising:

receiving second audio data representing a second utterance;
determining the second utterance corresponds to a request to change an output speed of audio corresponding to the first text data; and
causing a first device to change the output speed.

In the same field of speech synthesis, Ahn teaches
receiving second audio data representing a second utterance (0047, user may say "can you speak faster and more quietly?");

determining the second utterance corresponds to a request to change an output speed of audio corresponding to the first text data (0047, user may say "can you speak faster and more quietly?" and system will cause output to be faster and quieter); and

causing a first device to change the output speed (0047, user may say "can you speak faster and more quietly?" and system will cause output to be faster and quieter).

Therefore it would have been obvious to one of ordinary skill in the art at the time of effective filing to allow for users to change output via a command as taught by Ahn in the system of Shin and Raitio in order to allow for the user to customize the output scheme (Ahn 0047).

24. Consider claim 26, Shin and Raitio teach the computer-implemented method of claim 13, but do not specifically teach further comprising:

receiving second audio data representing a second utterance;
performing automatic speech recognition (ASR) processing on the second audio data to generate second text data;

performing natural language understanding (NLU) processing on the second text data to generate NLU results data;

determining the NLU results data represents a first speed that content is to be output at;

determining first content responsive to the second utterance; and causing the first content to be output at the first speed.

In the same field of responding to voice commands, Ahn teaches

receiving second audio data representing a second utterance (0047, user may say "can you speak faster and more quietly");

performing automatic speech recognition (ASR) processing on the second audio data to generate second text data (0032, speech recognition);

performing natural language understanding (NLU) processing on the second text data to generate NLU results data (0032, checking the meaning of the text generated from speech);

determining the NLU results data represents a first speed that content is to be output at (0047, i.e. one step faster);

determining first content responsive to the second utterance (0046 select appropriate content); and

causing the first content to be output at the first speed (0047, play content one step faster).

Therefore it would have been obvious to one of ordinary skill in the art at the time of effective filing to allow for users to change output via a command as taught by Ahn in the system of Shin and Raitio in order to allow for the user to customize the output scheme (Ahn 0047).

25. Claims 27 is/are rejected under 35 U.S.C. 103 as being unpatentable over Shin and Raitio as applied to claim 13 above, and further in view of Ahn and Lau,

26. Consider claim 27, Shin and Raitio teach the computer-implemented method of claim 13, but do not specifically teach further comprising:

- receiving second audio data representing a second utterance;
- performing automatic speech recognition (ASR) processing on the second audio data to generate second text data;
- performing natural language understanding (NLU) processing on the second text data to generate NLU results data;
- determining first content responsive to the second utterance.

In the same field of responding to voice commands, Ahn teaches

- receiving second audio data representing a second utterance (0047, user may say "can you speak faster and more quietly");
- performing automatic speech recognition (ASR) processing on the second audio data to generate second text data (0032, speech recognition);
- performing natural language understanding (NLU) processing on the second text data to generate NLU results data (0032, checking the meaning of the text generated from speech);
- determining first content responsive to the second utterance (0046 select appropriate content).

Therefore it would have been obvious to one of ordinary skill in the art at the time of effective filing to allow for users to change output via a command as taught by Ahn in the system of Shin and Raitio in order to allow for the user to customize the output scheme (Ahn 0047).

However, Shin, Raitio, and Ahn do not specifically teach
determining the NLU results data represents at least a first portion to be omitted
from content to be output; and
causing the first content to be output without the at least a first portion.
In the same field of processing audio commands, Lau teaches
determining the NLU results data represents at least a first portion to be omitted
from content to be output (00140, "skip" command can be detected); and
causing the first content to be output without the at least a first portion (0140,
skipping audio in response to skip command).

Therefore it would have been obvious to one of ordinary skill in the art at the time
of effective filing to use skip commands as taught by Lau in the system of Shin, Ahn,
and Buck in order to allow for hands free manipulation of content (Lau 0141).

Allowable Subject Matter

27. Claims 1 and 4 are allowed. The following is an examiner's statement of reasons
for allowance:

1. Consider claim 1, Shin teaches A computer-implemented method (abstract)
comprising:

receiving, from a first device, first audio data representing a first utterance (0037,
48, voice input from user);

determining output text data responsive to the spoken utterance (0037, 49, select output scheme based on input characteristics);

performing, text-to-speech (TTS) processing on the first text data to generate second audio data, the second audio data corresponding to a default characteristic of speech (0048, TTS, 0037, 49, select output scheme based on input characteristics);
and

causing the first device to emit audio corresponding to the second audio data (0037, 49, 52, output speech using output scheme).

Shin does not specifically teach

determining user profile data associated with the first device;

performing, text-to-speech (TTS) processing on the first text data to generate second audio data, the second audio data corresponding to a default characteristic of speech based at least in part on the second characteristic being within the threshold deviation of the first characteristic;

In the same field of speech synthesis, Gong teaches wherein the instructions further cause the at least one processor to:

determining user profile data associated with the first device (0057, user profiles including registration data,); and

performing, text-to-speech (TTS) processing on the first text data to generate second audio data, the second audio data corresponding to a default characteristic of speech based at least in part on the second characteristic being within the threshold

deviation of the first characteristic (0044-47, speech output modified based on determination of speech rate to normal user speech rate etc.);

Therefore it would have been obvious to one of ordinary skill in the art at effective filing to use user profiles to determine output parameters as taught by Gong in the system of Shin in order to more accurately adapt the output to the users circumstances (Gong 0037).

However the prior art of record does not teach or fairly suggest the limitations of “determining a first number of words represented in the first audio data; determining, in the user profile data, an average number of words of a user command; determining the first number of words deviates from the average number of words; determining template text data based at least in part on the first number of words deviating from the average number of words; receiving, from a second device, first text data responsive to the first utterance; populating the template text data with the first text data to generate second text data; performing text-to-speech (TTS) processing on the [[first]] second text data to generate second audio data, the second audio data corresponding to a non-default characteristic of speech based at least in part on the first number of words deviating from the average number of words;” when combined with each and every other limitation of the claim. Therefore claim 1 is allowable.

28. Claim 4 depends and further limits claim 1 and therefore is allowable as well.

29. Claims 29-32 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

30. Claims 29-32 depend on and further limit claim 1 and therefore contain allowable subject matter as well.

31. Claims 21 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

32. Consider claim 21, the prior art of record does not teach or fairly suggest the limitations of " receive second audio data representing a second utterance; determine the user profile data is associated with the second utterance; based at least in part on the user profile data being associated with the first utterance and the second utterance, determine an amount of time between receipt of the first audio data and the second audio data; determine the amount of time is less than a threshold amount of time; determine second text data responsive to the second utterance; and perform TTS processing on the second text data based at least in part on the amount of time being less than the threshold amount of time" when combined with each and every other

limitation of the claim, the base claim, and any intervening claims. Therefore claim 21 contains allowable subject matter.

33. Claim 25 contains similar subject matter as claim 21 and therefore contains allowable subject matter as well.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS GODBOLD whose telephone number is (571)270-1451. The examiner can normally be reached on Monday-Thursday 7:00am-4:30pm Friday 7:00am-3:30pm.

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.

/DOUGLAS GODBOLD/
Primary Examiner, Art Unit 2658

Notice of References Cited	Application/Control No. 15/386,333	Applicant(s)/Patent Under Reexamination LIANG ET AL.	
	Examiner DOUGLAS GODBOLD	Art Unit 2658	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-2009/0254342 A1	10-2009	Buck; Markus	G10L15/222	704/233
*	B	US-2011/0223893 A1	09-2011	Lau; Kevin	G10L15/22	455/414.1
*	C	US-2015/0348548 A1	12-2015	PIERNOT; Philippe P.	G10L15/22	704/235
*	D	US-2017/0358301 A1	12-2017	RAITIO; Tuomo J.	G10L13/033	1/1
	E	US-				
	F	US-				
	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	CPC 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.

U.S. Patent and Trademark Office
PTO-892 (Rev. 01-2001)

Notice of References Cited

Part of Paper No. 20180723