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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	16290983
Filing Date	2019-03-04
First Named Inventor	Naganuma
Art Unit	2656
Examiner Name	Linda Wong
Attorney Docket Number	SAJVP171US

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2016/136062	WO		2016-09-01	SONY CORP		

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	16290983
	Filing Date	2019-03-04
	First Named Inventor	Naganuma
	Art Unit	2656
	Examiner Name	Linda Wong
	Attorney Docket Number	SAJVP171US

	1	

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EXAMINER SIGNATURE

Examiner Signature		Date Considered	

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

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	16290983
	Filing Date	2019-03-04
	First Named Inventor	Naganuma
	Art Unit	2656
	Examiner Name	Linda Wong
	Attorney Docket Number	SAJVP171US

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

X That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

X See attached certification statement.

Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

X None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Greg Turocy/	Date (YYYY-MM-DD)	2021-07-12
Name/Print	Gregory Turocy	Registration Number	36952

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 the Freedom of Information Act requires disclosure of these record s.

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 inspections 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:	43224661
Application Number:	16290983
International Application Number:	
Confirmation Number:	5210
Title of Invention:	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM
First Named Inventor/Applicant Name:	Tatsumi Naganuma
Customer Number:	23623
Filer:	Gregory Turocy/Michelle Folger
Filer Authorized By:	Gregory Turocy
Attorney Docket Number:	SAJVP171US
Receipt Date:	12-JUL-2021
Filing Date:	04-MAR-2019
Time Stamp:	15:39:26
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	Information Disclosure Statement (IDS) Form (SB08)	updated_IDS.pdf	612026 0fd50704b6a76ebcaffcc0f9fded4e3b10cb739f	no	4

Warnings:

Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
2	Foreign Reference	WO2016136062.pdf	8605919 5c59dba91f81e250c02a611cbd8ae2d4e27061ee	no	71
Warnings:					
Information:					
			Total Files Size (in bytes):	9217945	

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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.

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/290,983	07/20/2021	11069337	SAJVP171US	5210

23623 7590 06/30/2021
AMIN, TUROCY & WATSON, LLP
200 Park Avenue
Suite 300
Beachwood, OH 44122

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 108 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):

Tatsumi Naganuma, Yokohama-shi, JAPAN;
JVC KENWOOD Corporation, Yokohama-shi, JAPAN;

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.

IR103 (Rev. 10/09)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
16290983	04-Mar-2019	Tatsumi Naganuma	SAJVP171US	5210

TITLE OF INVENTION :

VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Regular Undiscounted	Utility under 35 USC 111(a)	2656	275000	LINDA WONG

Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
$1200	$0	$1200	22-Jun-2021	$0

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
23623 AMIN, TUROCY & WATSON, LLP 200 Park Avenue Suite 300 Beachwood OH 44122 UNITED STATES 216-696-8730 docket@thepatentattorneys.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status

Change in Entity Status

○ Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.
Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment. If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

○ Applicant asserting small entity status. See 37 CFR 1.27.
Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

◉ Applicant changing to regular undiscounted fee status.
Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

3.The Following Fee(s) Are Submitted:

☒ Issue Fee	☐ I authorize USPTO to apply my previously paid issue fee to the current fees due
☐ Publication Fee	☐ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number _____
☐ Advance Order - # of copies _____	☒ If i**n addition to** the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency, or credit any overpayment, to Deposit Account Number 50-1063 . The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. AMIN, TUROCY & WATSON, LLP
2.
3.

5.Assignee Name(s) and Residence Data To Be Printed

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.

Name	City	State	Country	Category
JVC KENWOOD Corporation	Yokohama-Shi		japan	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/Greg Turocy/	**Date**	06-16-2021
Name	Gregory Turocy	**Registration Number**	36952

Electronic Acknowledgement Receipt	
EFS ID:	43004024
Application Number:	16290983
International Application Number:	
Confirmation Number:	5210
Title of Invention:	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM
First Named Inventor/Applicant Name:	Tatsumi Naganuma
Customer Number:	23623
Filer:	Gregory Turocy/Rebecca Veri
Filer Authorized By:	Gregory Turocy
Attorney Docket Number:	SAJVP171US
Receipt Date:	16-JUN-2021
Filing Date:	04-MAR-2019
Time Stamp:	14:35:31
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1200
RAM confirmation Number	E20216FE35273646
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Web85b.pdf	46260 45a95425bdf22ae087998fb88fbd594f9a499d60	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32160 57e9e7cc36e093d93b18f915098b72c5e051b73	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	78420		

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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.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/290,983	03/04/2019	Tatsumi Naganuma	SAJVP171US	5210

23623 7590 04/12/2021
AMIN, TUROCY & WATSON, LLP
200 Park Avenue
Suite 300
Beachwood, OH 44122

EXAMINER
WONG, LINDA

ART UNIT	PAPER NUMBER
2656	

NOTIFICATION DATE	DELIVERY MODE
04/12/2021	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@thepatentattorneys.com
hmckee@thepatentattorneys.com
rveri@thepatentattorneys.com

PTOL-90A (Rev. 04/07)

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U.S. Patent and Trademark Office
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Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR/ PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
16/290,983	03/04/2019	Naganuma, Tatsumi	SAJVP171US

		EXAMINER	
AMIN, TUROCY & WATSON, LLP **200 Park Avenue Suite 300** **Beachwood, OH 44122**		LINDA WONG	
		ART UNIT	**PAPER**
		2656	20210402a

DATE MAILED: _____

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

Commissioner for Patents

Search notes conducted for QPIDs filed with ids.	
/LINDA WONG/ Primary Examiner, Art Unit 2656	

PTO-90C (Rev.04-03)

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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.
16/290,983	03/04/2019	Tatsumi Naganuma	SAJVP171US	5210

23623 7590 04/07/2021
AMIN, TUROCY & WATSON, LLP
200 Park Avenue
Suite 300
Beachwood, OH 44122

EXAMINER
WONG, LINDA

ART UNIT	PAPER NUMBER
2656	

NOTIFICATION DATE	DELIVERY MODE
04/07/2021	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@thepatentattorneys.com
hmckee@thepatentattorneys.com
rveri@thepatentattorneys.com

PTOL-90A (Rev. 04/07)

Notice of Allowability	Application No. 16/290,983	Applicant(s) Naganuma, Tatsumi	
	Examiner LINDA WONG	Art Unit 2656	AIA (FITF) Status Yes

-- 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 RCE filed 3/9/2021.
   ☐ 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 1-3 and 5-6 . 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: _____ .

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 _____.

/LINDA WONG/
Primary Examiner, Art Unit 2656

Notice of Pre-AIA or AIA Status

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

Note: This corrected notice of allowance is being sent to correct the status of claim 4.

Continued Examination Under 37 CFR 1.114

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 3/9/2021 has been entered.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

The application recites variations of an invention as follows:

Regarding claim 1:

A voice-content control device, comprising:

a proximity sensor configured to calculate a distance between a user and the voice-content control device;

a voice classifying unit configured to analyze a voice spoken by a user and acquired by a voice acquiring unit to classify the voice as either one of a

first voice or a second voice based on the distance between the user and the voice-content control device;

a process executing unit configured to analyze the voice acquired by the voice acquiring unit to execute processing required by the user;

a voice-content generating unit configured to generate, based on content of the processing executed by the process executing unit, output sentence that is text data for a voice to be output to the user; and

an output controller configured to adjust a sound volume of voice data obtained by converting the output sentence thereinto, wherein the voice-content generating unit is further configured to generate a first output sentence as the output sentence when the acquired voice has been classified as the first voice, and

generate a second output sentence in which information is omitted as compared to the first output sentence as the output sentence when the acquired voice has been classified as the second voice,

wherein the output controller is further configured to adjust the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of the voice data obtained by converting the second output sentence thereinto.

Regarding claim 5:

A voice-content control method, comprising:

calculating a distance between a user and a voice-content control device;

acquiring a voice spoken by a user;

analyzing the acquired voice to classify the acquired voice as either one of a first voice and a second voice based on the distance between the user and the voice-content control device;

analyzing the acquired voice to execute processing intended by the user;

generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user; and

adjusting a sound volume of voice data obtained by converting the output sentence thereinto, wherein at the generating,

a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice, and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice, wherein

at adjusting the sound volume of voice data, further adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto.

Regarding claim 6:

A non-transitory storage medium that stores a voice-content control program that causes a computer to execute:

calculating a distance between a user and a voice-content control device;

acquiring a voice spoken by a user;

analyzing the acquired voice to classify the acquired voice as either one of a first voice and a second voice based on the distance between the user and the voice-content control device;

analyzing the acquired voice to execute processing intended by the user; generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user; and

adjusting a sound volume of voice data obtained by converting the output sentence thereinto, wherein at the generating,

a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice, and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice, wherein

at adjusting the sound volume of voice data, further adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto.

The highlighted portions indicate the significant portions in combination with all the recited limitations as claimed. Prior art, alone or in combination, fails to disclose the invention as a whole, more specifically, the highlighted portion and its connections.

The following prior art references disclose inventions similar in scope and field of invention to the applicant's recited limitations, but fails disclose the recited limitations as stated above:

US Publication No.: 20130325471 discloses classification observation or data point in training data to a cluster by identifying the least distance cluster center for the respective observation.

US 20190139541 discloses a smart speaker system comprising natural language classification to determine whether the smart speaker device should respond to the detected speech.

US Publication No: 20160379638 discloses a system matching text to speech to a quality of an input spoken utterance. The system may consider non-audio data and non-audio features when determining a quality of the speech, wherein non-audio data may include proximity of the user to the device. The incoming speech is classified as having one or more qualities. The response to the input spoken utterance depends on the specific speech qualitities. For example, a response to whispering can be "please do not whisper, I did not understand". (paragraph 65)

US Publication No.: 20170160813 discloses classify the sound, language and/or acoustic features from the inputs. To classify the vocal features of the inputs, SVMs and/ other modeling techniques such as Euclidean distance may be used. (paragraph 274)

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 LINDA WONG whose telephone number is (571)272-6044. The examiner can normally be reached on 9-5.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. 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 https://ppair-my.uspto.gov/pair/PrivatePair. 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.

/LINDA WONG/
Primary Examiner, Art Unit 2656

Notice of References Cited	Application/Control No. 16/290,983	Applicant(s)/Patent Under Reexamination Naganuma, Tatsumi	
	Examiner LINDA WONG	Art Unit 2656	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-20130325471-A1	12-2013	Rachevsky; Leonid	G06N20/00	704/244
*	B	US-20190139541-A1	05-2019	Andersen; John J.	G10L15/16	1/1
*	C	US-20160379638-A1	12-2016	Basye; Kenneth John	G10L15/18	704/235
*	D	US-20170160813-A1	06-2017	Divakaran; Ajay	G06K9/00221	1/1
	E					
	F					
	G					
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	I					
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	K					
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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.

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

23623 7590 03/22/2021
AMIN, TUROCY & WATSON, LLP
200 Park Avenue
Suite 300
Beachwood, OH 44122

EXAMINER
WONG, LINDA

ART UNIT	PAPER NUMBER
2656	

DATE MAILED: 03/22/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/290,983	03/04/2019	Tatsumi Naganuma	SAJVP171US	5210

TITLE OF INVENTION: VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	06/22/2021

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 ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

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: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (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)

23623 7590 03/22/2021
AMIN, TUROCY & WATSON, LLP
200 Park Avenue
Suite 300
Beachwood, OH 44122

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 transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/290,983	03/04/2019	Tatsumi Naganuma	SAJVP171US	5210

TITLE OF INVENTION: VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	06/22/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
WONG, LINDA	2656	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 03-09 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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). 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. Fees submitted: ❑Issue Fee ❑Publication Fee (if required) ❑Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/290,983	03/04/2019	Tatsumi Naganuma	SAJVP171US	5210

23623 7590 03/22/2021
AMIN, TUROCY & WATSON, LLP
200 Park Avenue
Suite 300
Beachwood, OH 44122

EXAMINER
WONG, LINDA

ART UNIT	PAPER NUMBER
2656	

DATE MAILED: 03/22/2021

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

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.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B 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 30 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.

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. 16/290,983	Applicant(s) Naganuma, Tatsumi	
	Examiner LINDA WONG	Art Unit 2656	AIA (FITF) Status Yes

-- 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 RCE filed 3/9/2021.
   ☐ 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 1-6 . 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: _____ .

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 _____.

/LINDA WONG/
Primary Examiner, Art Unit 2656

Notice of Pre-AIA or AIA Status

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

Continued Examination Under 37 CFR 1.114

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 3/9/2021 has been entered.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

The application recites variations of an invention as follows:

Regarding claim 1:

A voice-content control device, comprising:

a proximity sensor configured to calculate a distance between a user and the voice-content control device;

a voice classifying unit configured to analyze a voice spoken by a user and acquired by a voice acquiring unit to classify the voice as either one of a first voice or a second voice based on the distance between the user and the voice-content control device;

a process executing unit configured to analyze the voice acquired by the voice acquiring unit to execute processing required by the user;

a voice-content generating unit configured to generate, based on content of the processing executed by the process executing unit, output sentence that is text data for a voice to be output to the user; and

an output controller configured to adjust a sound volume of voice data obtained by converting the output sentence thereinto, wherein the voice-content generating unit is further configured to generate a first output sentence as the output sentence when the acquired voice has been classified as the first voice, and

generate a second output sentence in which information is omitted as compared to the first output sentence as the output sentence when the acquired voice has been classified as the second voice,

wherein the output controller is further configured to adjust the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of the voice data obtained by converting the second output sentence thereinto.

Regarding claim 5:

A voice-content control method, comprising:

calculating a distance between a user and a voice-content control device;

acquiring a voice spoken by a user;

analyzing the acquired voice to classify the acquired voice as either one of a first voice and a second voice based on the distance between the user and the voice-content control device;

analyzing the acquired voice to execute processing intended by the user;

generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user; and

adjusting a sound volume of voice data obtained by converting the output sentence thereinto, wherein at the generating,

a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice, and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice, wherein

at adjusting the sound volume of voice data, further adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto.

Regarding claim 6:

A non-transitory storage medium that stores a voice-content control program that causes a computer to execute:

calculating a distance between a user and a voice-content control device;

acquiring a voice spoken by a user;

analyzing the acquired voice to classify the acquired voice as either one of a first voice and a second voice based on the distance between the user and the voice-content control device;

analyzing the acquired voice to execute processing intended by the user; generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user; and

adjusting a sound volume of voice data obtained by converting the output sentence thereinto, wherein at the generating,

a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice, and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice, wherein

at adjusting the sound volume of voice data, further adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto.

The highlighted portions indicate the significant portions in combination with all the recited limitations as claimed. Prior art, alone or in combination, fails to disclose the invention as a whole, more specifically, the highlighted portion and its connections.

The following prior art references disclose inventions similar in scope and field of invention to the applicant's recited limitations, but fails disclose the recited limitations as stated above:

US Publication No.: 20130325471 discloses classification observation or data point in training data to a cluster by identifying the least distance cluster center for the respective observation.

US 20190139541 discloses a smart speaker system comprising natural language classification to determine whether the smart speaker device should respond to the detected speech.

US Publication No: 20160379638 discloses a system matching text to speech to a quality of an input spoken utterance. The system may consider non-audio data and non-audio features when determining a quality of the speech, wherein non-audio data may include proximity of the user to the device. The incoming speech is classified as having one or more qualities. The response to the input spoken utterance depends on the specific speech qualitities. For example, a response to whispering can be "please do not whisper, I did not understand". (paragraph 65)

US Publication No.: 20170160813 discloses classify the sound, language and/or acoustic features from the inputs. To classify the vocal features of the inputs, SVMs and/ other modeling techniques such as Euclidean distance may be used. (paragraph 274)

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 LINDA WONG whose telephone number is (571)272-6044. The examiner can normally be reached on 9-5.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. 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 https://ppair-my.uspto.gov/pair/PrivatePair. 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.

/LINDA WONG/
Primary Examiner, Art Unit 2656

Notice of References Cited	Application/Control No. 16/290,983	Applicant(s)/Patent Under Reexamination Naganuma, Tatsumi	
	Examiner LINDA WONG	Art Unit 2656	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-20130325471-A1	12-2013	Rachevsky; Leonid	G06N20/00	704/244
*	B	US-20190139541-A1	05-2019	Andersen; John J.	G10L15/16	1/1
*	C	US-20160379638-A1	12-2016	Basye; Kenneth John	G10L15/18	704/235
*	D	US-20170160813-A1	06-2017	Divakaran; Ajay	G06K9/00221	1/1
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

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.

PTO/SB/30EFS (07-14)
Approved for use through 07/31/2016. 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 contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	16/290,983	Filing Date	2019-03-04	Docket Number (if applicable)	SAJVP171US	Art Unit	2656
First Named Inventor	Tatsumi Naganuma, et al.			Examiner Name	Linda Wong		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, to any international application that does not comply with the requirements of 35 U.S.C. 371, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV.

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☒ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☐ Other _____

☒ Enclosed

☐ Amendment/Reply

☐ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☒ Other RCE Submission

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 501063

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (07-14)
Approved for use through 07/31/2016. 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 contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Greg Turocy/	Date (YYYY-MM-DD)	2021-03-09
Name	Gregory Turocy	Registration Number	36952

This collection of information is required by 37 CFR 1.114. 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.

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 the Freedom of Information Act requires disclosure of these records.

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 inspections 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:	42131943
Application Number:	16290983
International Application Number:	
Confirmation Number:	5210
Title of Invention:	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM
First Named Inventor/Applicant Name:	Tatsumi Naganuma
Customer Number:	23623
Filer:	Gregory Turocy/Bailey Zugan Rayl
Filer Authorized By:	Gregory Turocy
Attorney Docket Number:	SAJVP171US
Receipt Date:	09-MAR-2021
Filing Date:	04-MAR-2019
Time Stamp:	16:14:53
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1360
RAM confirmation Number	E202139G15080831
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	RCE.pdf	1349892 4e55d38fb02a330e57437555a4005fa06b490843	no	3
Warnings:					
Information:					
2	Amendment Submitted/Entered with Filing of CPA/RCE	SUBMISSION171.pdf	45594 9b9d27dcfec77c08f4810502f59185a30f655872	no	7
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30624 fdc8a1af09a73ba23adaad4f75082f7a95e82d17	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	1426110	

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.

<u>New Applications Under 35 U.S.C. 111</u>
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.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
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.

CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence (along with any paper referred to as being attached or enclosed) is being submitted *via* the USPTO EFS Filing System on the date shown below to Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Date: March 9, 2021 /Bailey Zugan Rayl/
Bailey Zugan Rayl

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:			
Inventor(s):	Tatsumi Naganuma, *et al.*	Examiner:	Linda Wong
Serial No:	16/290,983	Art Unit:	2656
Filing Date:	March 4, 2019	Conf. No:	5210

Title: VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

RCE SUBMISSION

Examiner Wong:

This paper is filed in response to the Final Office Action dated December 10, 2020. Kindly enter the following amendments. An RCE form is attached hereto.

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently Amended) A voice-content control device, comprising:

a proximity sensor configured to calculate a distance between a user and the voice-content control device;

a voice classifying unit configured to analyze a voice spoken by a user and acquired by a voice acquiring unit to classify the voice as either one of a first voice or a second voice based on the distance between the user and the voice-content control device;

a process executing unit configured to analyze the voice acquired by the voice acquiring unit to execute processing required by the user;

a voice-content generating unit configured to generate, based on content of the processing executed by the process executing unit, output sentence that is text data for a voice to be output to the user; and

an output controller configured to adjust a sound volume of voice data obtained by converting the output sentence thereinto, wherein

the voice-content generating unit is further configured to

generate a first output sentence as the output sentence when the acquired voice has been classified as the first voice, and

generate a second output sentence in which information is omitted as compared to the first output sentence as the output sentence when the acquired voice has been classified as the second voice, wherein

the output controller is further configured to adjust the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of the voice data obtained by converting the second output sentence thereinto.

2. (Original) The voice-content control device according to claim 1, wherein the process executing unit comprises:

an intention analyzing unit configured to extract intention information indicating an intention of the user based on the voice acquired by the voice acquiring unit; and

an acquisition content information acquiring unit configured to acquire acquisition content information which is notified to the user based on the extracted intention information, and

the voice-content generating unit is further configured to generate the text data including the acquisition content information as the output sentence.

3. (Original) The voice-content control device according to claim 1, wherein, on generating the second sentence, the voice-content generating unit is further configured to omit a part of information included in the voice spoken by the user.

4. (Cancelled)

5. (Currently Amended) A voice-content control method, comprising:

<u>calculating a distance between a user and a voice-content control device;</u>

acquiring a voice spoken by a user;

analyzing the acquired voice to classify the acquired voice as either one of a first voice and a second voice <u>based on the distance between the user and the voice-content control device</u>;

analyzing the acquired voice to execute processing intended by the user;

generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user; and

adjusting a sound volume of voice data obtained by converting the output sentence thereinto, wherein

at the generating,

a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice, and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice, wherein

at adjusting the sound volume of voice data, further adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto.

6. (Currently Amended) A non-transitory storage medium that stores a voice-content control program that causes a computer to execute:

calculating a distance between a user and a voice-content control device;

acquiring a voice spoken by a user;

analyzing the acquired voice to classify the acquired voice as either one of a first voice and a second voice based on the distance between the user and the voice-content control device;

analyzing the acquired voice to execute processing intended by the user;

generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user; and

adjusting a sound volume of voice data obtained by converting the output sentence thereinto, wherein

at the generating,

a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice, and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice, wherein

at adjusting the sound volume of voice data, further adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto.

REMARKS

Claims 1-3 and 5-6 are pending in the subject application upon entry of the amendments. A listing of the claims can be found on pages 2-4 of the Reply. Favorable reconsideration is respectfully requested in view of the amendments and following comments.

The Amendments

Claims 1 and 5-6 are amended to disclaim the cited art. Claim 4 is cancelled without prejudice. No new matter is added with such amendments. Support for such amendments can be found in the present Specification at least in paragraphs [0039]-[0040] and [0075].

First Obviousness Rejection

Claims 1 and 3-6 stand rejected under AIA 35 U.S.C. § 103(a) over Tsai et al. (US Patent Application Publication No. 20190130900 – hereafter "Tsai") in view of Chandrasekaran et al. (US Patent Application Publication No. 20190266999 – hereafter "Chandrasekaran"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

As amended, independent claim 1 recites in part *a proximity sensor configured to calculate a distance between a user and the voice-content control device* and *a voice classifying unit configured to analyze a voice spoken by a user and acquired by a voice acquiring unit to classify the voice as either one of a first voice or a second voice based on the distance between the user and the voice-content control device*. Neither Tsai nor Chandrasekaran discloses or suggests such features.

Tsai merely teaches a voice interactive device that includes a semantic analyzing module, a tone analyzing module, a speaker classification determining module, a dialogue sentence database, and a dialogue sentence generating module. (Abstract). The semantic analyzing module is configured to analyze a semantic meaning of a sentence spoken by a speaker, the tone analyzing module is configured to analyze a tone of the sentence, the speaker classification determining module is configured to determine that the speaker belongs to one of a plurality of speaker classification types

according to the semantic meaning and the tone, the dialogue database stores a plurality of relationships between speaker classifications and response sentences, and the dialogue sentence generating module is configured to generate a response sentence corresponding to the speaker classification. (Abstract). **Nowhere does Tsai mention identifying a speaker classification type based on a distance between the speaker and the voice interactive device**. **Indeed, Tsai does not mention computing a distance between the speaker and the voice interactive device at all**.

Chandrasekaran does not cure this deficiency. Chandrasekaran merely discloses a personal virtual assistant system that takes existing inputs and processes them to understand a user's personality or intent through analysis of features such as user's tone, language use, vocal volume, facial expressions, and context from device use and surroundings. (Abstract). **Nowhere does Chandrasekaran mention classifying a voice based on a distance between the user and the personal virtual assistant system**. **Indeed, Chandrasekaran does not mention computing a distance between the user and the personal virtual assistant system at all**.

For at least these reasons, neither Tsai nor Chandrasekaran discloses or suggests *a proximity sensor configured to calculate a distance between a user and the voice-content control device* and *a voice classifying unit configured to analyze a voice spoken by a user and acquired by a voice acquiring unit to classify the voice as either one of a first voice or a second voice based on the distance between the user and the voice-content control device*. Thus, independent claim 1 is not obvious over the combination of Tsai and Chandrasekaran, and may be patentable for other reasons. Withdrawal of this rejection is respectfully requested.

Since independent claims 5 and 6 are amended similarly to independent claim 1, independent claims 5 and 6 are likewise not obvious over the combination of Tsai and Chandrasekaran, and may be patentable for other reasons. Withdrawal of this rejection is respectfully requested.

Since claim 3 depends from independent claim 1, it is likewise not obvious over the combination of Tsai and Chandrasekaran, and may be patentable for other reasons. Withdrawal of this rejection is respectfully requested.

Since claim 4 is cancelled by the herein amendments, the rejection of claim 4 is rendered moot.

Second Obviousness Rejection

Claim 2 stands rejected under AIA 35 U.S.C. § 103(a) over Tsai, in view of Chandrasekaran, in further view of Nandy et al. (US Patent Application Publication No. 20190180740 – hereafter "Nandy"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Nandy merely teaches techniques for implementing voice-enabled devices in vehicle environments to facilitate voice interaction with vehicle computing devices. (Abstract). **Nowhere does Nandy mention classifying a voice based on a distance between a user and a voice-content control device**. **Indeed, Nandy does not mention computing a distance between a user and a voice-content control device at all**. Accordingly, claim 2 is not obvious over the combination of Tsai, Chandrasekaran, and Nandy, and may be patentable for other reasons. Withdrawal of this rejection is respectfully requested.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [SAJVP171US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact assignee's undersigned representative at the telephone number below.

Respectfully submitted,

AMIN, TUROCY & WATSON, LLP

/Greg Turocy/

Gregory Turocy
Reg. No. 36,952

200 Park Avenue, Suite 300
Beachwood, OH 44122
Telephone (216) 696-8730
Facsimile (216) 696-8731

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.
16/290,983	03/04/2019	Tatsumi Naganuma	SAJVP171US	5210

23623 7590 12/10/2020
AMIN, TUROCY & WATSON, LLP
200 Park Avenue
Suite 300
Beachwood, OH 44122

EXAMINER
WONG, LINDA

ART UNIT	PAPER NUMBER
2656	

NOTIFICATION DATE	DELIVERY MODE
12/10/2020	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@thepatentattorneys.com
hmckee@thepatentattorneys.com
rveri@thepatentattorneys.com

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No. 16/290,983	Applicant(s) Naganuma, Tatsumi	
	Examiner LINDA WONG	Art Unit 2656	AIA (FITF) 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 11/19/2020.

☐ 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) 1-6 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) 1-6 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 _____ 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: _____.

Notice of Pre-AIA or AIA Status

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

Response to Arguments

Applicant's arguments, see Applicant's Remarks, filed 11/19/2020, with respect to the rejection(s) of claim(s) 1-6 under 35 USC 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tsai et al (US Publication No.: 20190130900) in view of (US Publication No.: 20190266999).

Claim Rejections - 35 USC § 103

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim(s) 1,3-6 is/are rejected under 35 U.S.C. 103 as being unpatentable over Tsai et al (US Publication No.: 20190130900) in view of Chandrasekaran et al (US Publication No.: 20190266999).

Claim 1, Tsai et al discloses

a voice classifying unit configured to (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a central processor (CPU). Paragraph 15 of Tsai et al discloses the apparatus of a voice interactive device as a general purpose processor, wherein a CPU is a type of general purpose processor. Fig. 1, label 130 as the voice classifying unit.) analyze a voice spoken by a user (Fig. 1b, label W1 as the voice or audio input by a speaker. (Paragraph 18)) and acquired by a voice acquiring unit (Fig. 1b, label 105) to classifying the voice as either one of a first voice or a second voice (Paragraph 19 discloses the speaker classification determining module classifies the speaking sentence W1 (input voice) to classification type based on tone of the voice input and the semantic meaning of the voice input. Paragraph 35 discloses examples of the voice input W1 classified in different classifications.);

a process executing unit configured to (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Paragraph 15 of Tsai et al discloses the apparatus as a general purpose processor, wherein CPU is a type of general purpose processor. Fig. 1b, label 110,120) analyze the voice acquired by the voice acquiring unit to execute processing required by the user (Fig. 1b, label 110,120 analyzes the voice input, label W1, to determine the semantic meaning and tone.); and

a voice content generating unit configured to (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Paragraph 15 of Tsai et al discloses the apparatus as a general purpose processor, wherein CPU is a type of general purpose processor. Fig. 1b, label 140,150) generate, based on content of the processing executed by the process executing unit, output sentence that is text data for a voice to be output to the user (Fig. 1b, label 140,150 generates a response based on the output from label 130, which is dependent on the output from labels 110,120.); and

an output controller configured to generates a voice response to the user (Fig. 1a,1b, label voice generator.),

wherein the voice content generating unit is further configured to generate a first output sentence as the output sentence when the acquired voice has been classified as the first voice (Fig. 1b, label 130,140 generates a sentence output based on the classification of the voice input, W1. Paragraph 35 discloses based on the classification, the response sentence is generated.), and

generate a second output sentence in which information is omitted as compared to the first output sentence as the output sentence when the acquired voice has been classified as the second voice (paragraph 35 discloses a first response sentence S1 is generated according to the classification of the speaker. For example, when the speaker belongs to the "tired state" classification, the response sentence S1 is "Get up early tomorrow! I suggests you could take a nap, you need to set an alarm clock?". A second response sentence is generated and outputted when the voice input is classified in a different state. For example, when W1 is classified into "sick state", the second response sentence is "It is recommended that you lie down. Do you need my help with contacting

your relatives or health care workers or providing you with medical information?". Due to the different classification, the response sentence will omit information that is not relevant to the classification. For example, in the example above, the second response sentence for "sick state" classification does not include nap or setting an alarm.).

Tsai et al discloses the voice content generating unit (Paragraph 15 discloses the apparatus as a CPU. Paragraph 15 of Tsai et al discloses the apparatus as a general purpose processor, wherein CPU is a type of general purpose processor. Fig. 1b, label 140,150) generating an output sentence according to the classification of multiple voices (paragraph 35, Fig. 1b, label 130,140), and an output controller configured to generates a voice response to the user (Fig. 1a,1b, label voice generator.), but fails to disclose an output controller configured to adjust a sound volume of voice data obtained by converting the output sentence thereto and the output controller is further configured to adjust the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of the voice data obtained by converting the second output sentence thereinto.

Chandrasekaran et al discloses a virtual assistant (Fig. 1, label PVA) comprising an output controller (Fig. 4, label 26,28) configured to adjust a sound volume of voice data obtained by converting the output sentence thereto (Paragraph 126 discloses generating a response to the user input according to the emotional state of the user. The output response from the virtual assistant is adjusted according to the language, volume and tone selected according to the emotional state of the user.) and the output controller is further configured to adjust the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of the voice data obtained by converting the second output

sentence thereinto (paragraph 126 discloses generating a response to a user's voice input as shown in Fig. 1. The response is outputted according to the volume, language, and tone of the user. This indicates a response is outputted according to one emotional state will differ from a response outputted according to another emotional state of the user since responses are outputted according to the volume, language and tone of the user.).

Tsai et al disclose a voice generator configured to generate and output a response to a voice input according to the classification of the speaker (paragraph 35, Fig. 1a,1b) and Chandrasekaran et al discloses an output generator configured to output a response according to the volume, language and tone of the user. (paragraph 126, Fig. 1) It would be obvious to one skilled in the art before the effective filing date of the application to modify Tsai et al's voice generator by incorporating outputting a response according to the volume, language and tone of the user as disclosed by Chandrasekaran et al so to show empathy during an engagement between a user and a virtual assistant. in order to increase user satisfaction, engage interactions, and increase usage of the virtual assistant. (paragraph 2)

Claim 3, Tsai et al discloses on generating the second sentence, the voice-content generating unit is further configured to omit a part of information included in the voice spoken by the user. (paragraph 35 discloses a second response sentence is generated and outputted when the voice input is classified in a different state. For example, when W1 is classified into "sick state", the second response sentence is "It is recommended that you lie down. Do you need my help with contacting your relatives or health care workers or providing you with medical information?". Due to the different classification, the response sentence will omit information that is not relevant to the classification. In

the example above, the second response sentence for “sick state” classification does not include information included in the voice spoken by the user, such as “tired”.)

Claim 4, Tsai et al discloses when the voice spoken by the user is a whispered voice, the voice classifying unit is further configured to classify the voice as the second voice (Paragraph 19 discloses classification of W1 is based on the tone and semantic meaning. Table 1 (paragraph 24) shows the output from tone analyzing module, wherein the volume is used to determine classification in the speaker classification determining module 130.).

Claim 5, Tsai et al discloses

acquired a voice spoken by a user (Fig. 1b, label 105);

analyzing the acquired voice (Fig. 1b, label W1 as the voice or audio input by a speaker. (Paragraph 18)) to classify the acquired voice as either one of a first voice or a second voice (Fig. 1b, label 130, Paragraph 19 discloses the speaker classification determining module classifies the speaking sentence W1 (input voice) to classification type based on tone of the voice input and the semantic meaning of the voice input. Paragraph 35 discloses examples of the voice input W1 classified in different classifications.);

analyzing the acquired voice to execute processing required by the user (Fig. 1b, label 110,120 analyzes the voice input, label W1, to determine the semantic meaning and tone.); and

generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user (Fig. 1b, label 140,150 generates a response based on the output from label 130, which is dependent on the output from labels 110,120.),

wherein at the generating, a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice (Fig. 1b, label 130,140 generates a sentence output based on the classification of the voice input, W1. Paragraph 35 discloses based on the classification, the response sentence is generated.), and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice (paragraph 35 discloses a first response sentence S1 is generated according to the classification of the speaker. For example, when the speaker belongs to the "tired state" classification, the response sentence S1 is "Get up early tomorrow! I suggests you could take a nap, you need to set an alarm clock?". A second response sentence is generated and outputted when the voice input is classified in a different state. For example, when W1 is classified into "sick state", the second response sentence is "It is recommended that you lie down. Do you need my help with contacting your relatives or health care workers or providing you with medical information?". Due to the different classification, the response sentence will omit information that is not relevant to the classification. For example, in the example above, the second response sentence for "sick state" classification does not include nap or setting an alarm.).

Tsai et al discloses generating an output sentence according to the classification of multiple voices (paragraph 35, Fig. 1b, label 130,140), and an output controller configured to generates a voice response to the user (Fig. 1a,1b, label voice generator.), but fails to disclose adjusting a sound volume of voice data obtained by converting the output sentence thereto and at adjusting the sound volume of voice data, further

adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto.

Chandrasekaran et al discloses a virtual assistant (Fig. 1, label PVA) comprising an output controller (Fig. 4, label 26,28) configured to adjust a sound volume of voice data obtained by converting the output sentence thereto (Paragraph 64-65 discloses the virtual assistant provides an output from the audio/visual output device that augment the tone, language and volume of the assistant's response based on the evaluated mood of the user. Paragraph 126 discloses generating a response to the user input according to the emotional state of the user. The output response from the virtual assistant is adjusted according to the language, volume and tone selected according to the emotional state of the user.) and at adjusting the sound volume of voice data, further adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto (Paragraph 64-65 discloses the virtual assistant provides an output from the audio/visual output device that augment the tone, language and volume of the assistant's response based on the evaluated mood of the user. Paragraph 126 discloses generating a response to a user's voice input as shown in Fig. 1. The response is outputted according to the volume, language, and tone of the user. This indicates a response is outputted according to one emotional state will differ from a response outputted according to another emotional state of the user since responses are outputted according to the volume, language and tone of the user.).

Tsai et al disclose a voice generator configured to generate and output a response to a voice input according to the classification of the speaker (paragraph 35, Fig. 1a,1b) and Chandrasekaran et al discloses an output generator configured to output a response according to the volume, language and tone of the user. (paragraph 64-65,126, Fig. 1) It would be obvious to one skilled in the art before the effective filing date of the application to modify Tsai et al's voice generator by incorporating outputting a response according to the volume, language and tone of the user as disclosed by Chandrasekaran et al so to show empathy during an engagement between a user and a virtual assistant in order to increase user satisfaction, engage interactions, and increase usage of the virtual assistant. (paragraph 2)

Claim 6, Tsai et al discloses

acquired a voice spoken by a user (Fig. 1b, label 105);

analyzing the acquired voice (Fig. 1b, label W1 as the voice or audio input by a speaker. (Paragraph 18)) to classify the acquired voice as either one of a first voice or a second voice (Fig. 1b, label 130, Paragraph 19 discloses the speaker classification determining module classifies the speaking sentence W1 (input voice) to classification type based on tone of the voice input and the semantic meaning of the voice input. Paragraph 35 discloses examples of the voice input W1 classified in different classifications.);

analyzing the acquired voice to execute processing required by the user (Fig. 1b, label 110,120 analyzes the voice input, label W1, to determine the semantic meaning and tone.); and

generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user (Fig. 1b, label 140,150 generates a response

based on the output from label 130, which is dependent on the output from labels 110,120.),

wherein at the generating, a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice (Fig. 1b, label 130,140 generates a sentence output based on the classification of the voice input, W1. Paragraph 35 discloses based on the classification, the response sentence is generated.), and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice (paragraph 35 discloses a first response sentence S1 is generated according to the classification of the speaker. For example, when the speaker belongs to the "tired state" classification, the response sentence S1 is "Get up early tomorrow! I suggests you could take a nap, you need to set an alarm clock?". A second response sentence is generated and outputted when the voice input is classified in a different state. For example, when W1 is classified into "sick state", the second response sentence is "It is recommended that you lie down. Do you need my help with contacting your relatives or health care workers or providing you with medical information?". Due to the different classification, the response sentence will omit information that is not relevant to the classification. For example, in the example above, the second response sentence for "sick state" classification does not include nap or setting an alarm.).

Tsai et al discloses generating an output sentence according to the classification of multiple voices (paragraph 35, Fig. 1b, label 130,140), and an output controller configured to generates a voice response to the user (Fig. 1a,1b, label voice generator.),

but fails to disclose adjusting a sound volume of voice data obtained by converting the output sentence thereto and at adjusting the sound volume of voice data, further adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto.

Chandrasekaran et al discloses a virtual assistant (Fig. 1, label PVA) comprising an output controller (Fig. 4, label 26,28) configured to adjust a sound volume of voice data obtained by converting the output sentence thereto (Paragraph 64-65 discloses the virtual assistant provides an output from the audio/visual output device that augment the tone, language and volume of the assistant's response based on the evaluated mood of the user. Paragraph 126 discloses generating a response to the user input according to the emotional state of the user. The output response from the virtual assistant is adjusted according to the language, volume and tone selected according to the emotional state of the user.) and at adjusting the sound volume of voice data, further adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto (Paragraph 64-65 discloses the virtual assistant provides an output from the audio/visual output device that augment the tone, language and volume of the assistant's response based on the evaluated mood of the user. Paragraph 126 discloses generating a response to a user's voice input as shown in Fig. 1. The response is outputted according to the volume, language, and tone of the user. This indicates a response is outputted according to one emotional state will differ from a response

outputted according to another emotional state of the user since responses are outputted according to the volume, language and tone of the user.).

Tsai et al disclose a voice generator configured to generate and output a response to a voice input according to the classification of the speaker (paragraph 35, Fig. 1a,1b) and Chandrasekaran et al discloses an output generator configured to output a response according to the volume, language and tone of the user. (paragraph 64-65,126, Fig. 1) It would be obvious to one skilled in the art before the effective filing date of the application to modify Tsai et al's voice generator by incorporating outputting a response according to the volume, language and tone of the user as disclosed by Chandrasekaran et al so to show empathy during an engagement between a user and a virtual assistant in order to increase user satisfaction, engage interactions, and increase usage of the virtual assistant. (paragraph 2)

Claim 2 is/are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Tsai et al (US Publication No.: 20190130900) in view of Chandrasekaran et al (US Publication No.: 20190266999), further in view of Nandy et al (US Publication No. : 20190180740).

Claim 2, Tsai et al discloses the processing executing unit (Fig. 1b, label 110,120) and the voice generating unit (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Paragraph 15 of Tsai et al discloses the apparatus as a general purpose processor, wherein CPU is a type of general purpose processor. Fig. 1b, label 140,150) but fails to disclose the processing executing unit comprises:

an intention analyzing unit configured to extract intention information indicating an intention of the user based on the voice acquiring by the voice acquiring unit; and

an acquisition content information acquiring unit configured to acquire acquisition content information which is notified to the user based on the extracted intention information, and

the voice content generating unit is further configured to generate the text data including the acquisition content information as the output sentence.

Nandy et al discloses a processing executing unit (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Fig. 7a, label 128,702) comprises:

an intention analyzing unit configured to (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Fig. 7a, label 754,702) extract intention information indicating an intention of the user based on the voice acquiring by the voice acquiring unit (Paragraph 34,145 discloses label 216 identifies the intent of the caller's utterance.); and

an acquisition content information acquiring unit configured to (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Fig. 7a, label 754,702,128.) acquire acquisition content information which is notified to the user based on the extracted intention information (Paragraph 145 discloses label 742 generates the command based on the intent and/or additional content. The response output notifies the user that the command is performed which indicates the content information such as the user request is "please hang up my phone call" (paragraph 143), the response is "we have hung up your phone call" (paragraph 145).), and

the voice content generating unit is further configured to (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Paragraph 15 of Tsai et al discloses the apparatus as a general purpose processor, wherein CPU is a type of general purpose processor. Fig. 7a, label 754, Fig. 7b, label 744) generate the text data including the acquisition content information as the output sentence (Paragraph 145 discloses label 742 generates text to speech output for the user's request. The response output notifies the user that the command is performed which indicates the content information such as the user request is "please hang up my phone call" (paragraph 143), the response is "we have hung up your phone call" (paragraph 145).).

Tsai e tal discloses speech recognition using semantic analysis (Fig. 1b) and Nandy et al discloses performing speech recognition with semantic analysis using a NLU and command processor as shown in Fig. 7a,7b, hence it would be obvious to one skilled in the art before the effective filing date of the application to modify Tsai et al's semantic analysis or processing executing unit by performing semantic analysis as disclosed by Nandy et al so to improve the user's experience by providing clear communication in response to a user's utterance or request and clearly understanding the user's utterance or request so to correctly and clearly perform the user's utterance or request.

Pertinent Prior art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Huang et al (US Publication No.: 20190164554): paragraph 32 discloses output speech with appropriate sentiment, tone, volume, etc.

Gelfenbeyn et al (US Publication No.: 20170110129): Paragraph 92 discloses setting emotional characteristics to a corresponding response to be delivered to the user. The emotional characteristics may be related to tone, voice, volume or other parameters.

Shin (US Publication No.: 20170083281): Paragraph 37 discloses a response to the voice input is adjusted or determined according to the volume of the user input.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINDA WONG whose telephone number is (571)272-6044. The examiner can normally be reached on 9-5.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an

interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. 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 https://ppair-my.uspto.gov/pair/PrivatePair. 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.

/LINDA WONG/
Primary Examiner, Art Unit 2656

Notice of References Cited	Application/Control No. 16/290,983	Applicant(s)/Patent Under Reexamination Naganuma, Tatsumi	
	Examiner LINDA WONG	Art Unit 2656	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-20190130900-A1	05-2019	Tsai; Cheng-Hung	G10L15/22	1/1
*	B	US-20190180740-A1	06-2019	Nandy; Dibyendu	G10L15/30	1/1
*	C	US-20190266999-A1	08-2019	Chandrasekaran; Nirupama	G09B5/00	1/1
*	D	US-20190164554-A1	05-2019	HUANG; Ching-Ling	G06F16/3329	1/1
*	E	US-20170110129-A1	04-2017	Gelfenbeyn; Ilya Gennadyevich	G06F3/167	1/1
*	F	US-20170083281-A1	03-2017	SHIN; Sang Min	G10L13/033	1/1
	G					
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	J					
	K					
	L					
	M					

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.

CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence (along with any paper referred to as being attached or enclosed) is being submitted *via* the USPTO EFS Filing System on the date shown below to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Date: November 19, 2020 /Bailey Zugan Rayl/
Bailey Zugan Rayl

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:

Inventor(s):	Tatsumi Naganuma	Examiner:	Linda Wong
Serial No:	16/290,983	Art Unit:	2656
Filing Date:	March 4, 2019	Conf. No:	5210

Title: VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

REPLY TO OFFICE ACTION

Dear Examiner Wong:

This paper is filed in response to the Office Action dated August 20, 2020. Kindly enter the following amendments.

Electronic Acknowledgement Receipt

EFS ID:	41168368
Application Number:	16290983
International Application Number:	
Confirmation Number:	5210
Title of Invention:	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM
First Named Inventor/Applicant Name:	Tatsumi Naganuma
Customer Number:	23623
Filer:	Gregory Turocy/Bailey Zugan Rayl
Filer Authorized By:	Gregory Turocy
Attorney Docket Number:	SAJVP171US
Receipt Date:	19-NOV-2020
Filing Date:	04-MAR-2019
Time Stamp:	12:25:30
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		REPLY171.pdf	43609 d3fb4852843a533525ff7e38ee640c0a5575f010	yes	7

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Applicant Arguments/Remarks Made in an Amendment	5	7
	Claims	2	4
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Warnings:			
Information:			
	Total Files Size (in bytes):	43609	

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.

<u>New Applications Under 35 U.S.C. 111</u>
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.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
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.

REMARKS

Claims 1-6 are pending in the subject application upon entry of the amendments. A listing of the claims can be found on pages 2-4 of the Reply. Favorable reconsideration is respectfully requested in view of the amendments and following comments.

The Amendments

Claims 1, 5, and 6 are amended to disclaim the cited art. No new matter is added with such amendments. Support for such amendments can be found in the present Specification at least in paragraphs [0061] and [0075].

Novelty Rejection

Claims 1 and 3-6 stand rejected under AIA 35 U.S.C. § 102(a)(2) over Tsai et al. (US Patent Application Publication No. 2019/0130900 – hereafter "Tsai"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

To anticipate a claim, a single reference must disclose each and every element of the claim. As explained below, Tsai fails to disclose each and every element of the subject claims.

As amended, independent claim 1 recites *the output controller is further configured to adjust the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of the voice data obtained by converting the second output sentence thereinto*. Tsai makes no mention of such features whatsoever.

Tsai teaches a voice interactive device that includes a semantic analyzing module, a tone analyzing module, a speaker classification determining module, a dialogue sentence database, and a voice generator, which analyzes the semantic meaning of a spoken sentence from a speaker and generates a spoken response sentence as a result. (Abstract). **Importantly, Tsai does not mention altering the volume between different spoken response sentences**. Indeed, only paragraphs [0021]-[0025] of Tsai even mention the word "volume" at all, and such paragraphs

merely state that Tsai can analyze the volume of a speaker's voice in order to infer an emotion of the speaker.

As explained at least in paragraph [0004] of the present Specification, a problem that plagues conventional voice processing devices is that "the output voice may be heard by a person who is not the user of the voice processing device and is around the voice processing device." "For example, if a person around the voice processing device is asleep, the output voice may be an annoyance to the person." "Therefore, on outputting the voice to the user, influence of the output voice to people other than the user is desired to be suppressed, and content of the output voice to the user is desired to be made adequately understandable." As explained at least in paragraphs [0061] and [0075] of the present Specification, the claimed invention can address this problem by differently adjusting the volume of different output sentences. **Because Tsai does not even hint at differently adjusting the volumes of different output sentences, Tsai cannot achieve this benefit**.

For at least these reasons, Tsai fails to teach *the output controller is further configured to adjust the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of the voice data obtained by converting the second output sentence thereinto*. Therefore, independent claim 1 is not anticipated by Tsai, and may be patentable for other reasons. Withdrawal of this rejection is respectfully requested.

Since claims 3-4 depend from independent claim 1, they are likewise not anticipated by Tsai, and may be patentable for other reasons. Withdrawal of this rejection is respectfully requested.

As amended, independent claims 5-6 each recite some version of *at adjusting the sound volume of voice data, further adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto*. As explained above, Tsai is silent as to such features. Thus, independent claims 5-6 are not anticipated by Tsai, and may be patentable for other reasons. Withdrawal of this rejection is respectfully requested.

Obviousness Rejection

Claim 2 stands rejected under AIA 35 U.S.C. § 103(a) over Tsai in view of Nandy et al. (US Patent Application Publication No. 2019/0180740 – hereafter "Nandy"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 2 depends from independent claim 1, and Nandy does not cure the deficiencies of Tsai with respect to independent claim 1. Nandy teaches techniques for implementing voice-enabled devices in vehicle environments to facilitate voice interaction with vehicle computing devices. (Abstract). Nandy makes no mention whatsoever of *the output controller is further configured to adjust the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of the voice data obtained by converting the second output sentence thereinto*. Thus, claim 2 is not obvious over Tsai and Nandy, and may be patentable for other reasons. Withdrawal of this rejection is respectfully requested.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [SAJVP171US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact assignee's undersigned representative at the telephone number below.

Respectfully submitted,

AMIN, TUROCY & WATSON, LLP

/Greg Turocy/

Gregory Turocy
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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently Amended) A voice-content control device, comprising:

a voice classifying unit configured to analyze a voice spoken by a user and acquired by a voice acquiring unit to classify the voice as either one of a first voice or a second voice;

a process executing unit configured to analyze the voice acquired by the voice acquiring unit to execute processing required by the user; ~~and~~

a voice-content generating unit configured to generate, based on content of the processing executed by the process executing unit, output sentence that is text data for a voice to be output to the user; and

an output controller configured to adjust a sound volume of voice data obtained by converting the output sentence thereinto, wherein

the voice-content generating unit is further configured to

generate a first output sentence as the output sentence when the acquired voice has been classified as the first voice, and

generate a second output sentence in which information is omitted as compared to the first output sentence as the output sentence when the acquired voice has been classified as the second voice, wherein

the output controller is further configured to adjust the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of the voice data obtained by converting the second output sentence thereinto.

2. (Original) The voice-content control device according to claim 1, wherein the process executing unit comprises:

an intention analyzing unit configured to extract intention information indicating an intention of the user based on the voice acquired by the voice acquiring unit; and

an acquisition content information acquiring unit configured to acquire acquisition content information which is notified to the user based on the extracted intention information, and

the voice-content generating unit is further configured to generate the text data including the acquisition content information as the output sentence.

3. (Original) The voice-content control device according to claim 1, wherein, on generating the second sentence, the voice-content generating unit is further configured to omit a part of information included in the voice spoken by the user.

4. (Original) The voice-content control device according to claim 1, wherein, when the voice spoken by the user is a whispered voice, the voice classifying unit is further configured to classify the voice as the second voice.

5. (Currently Amended) A voice-content control method, comprising:

acquiring a voice spoken by a user;

analyzing the acquired voice to classify the acquired voice as either one of a first voice and a second voice;

analyzing the acquired voice to execute processing intended by the user; ~~and~~

generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user; and

adjusting a sound volume of voice data obtained by converting the output sentence thereinto, wherein

at the generating,

a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice, and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice, wherein

at adjusting the sound volume of voice data, further adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto.

6. (Currently Amended) A non-transitory storage medium that stores a voice-content control program that causes a computer to execute:

acquiring a voice spoken by a user;

analyzing the acquired voice to classify the acquired voice as either one of a first voice and a second voice;

analyzing the acquired voice to execute processing intended by the user; ~~and~~

generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user; and

adjusting a sound volume of voice data obtained by converting the output sentence thereinto, wherein

at the generating,

a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice, and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice, wherein

at adjusting the sound volume of voice data, further adjusting the sound volume of voice data such that the sound volume of voice data obtained by converting the first output sentence thereinto differs from the sound volume of voice data obtained by converting the second output sentence thereinto.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/290,983	03/04/2019	Tatsumi Naganuma	SAJVP171US	5210

23623 7590 08/20/2020
AMIN, TUROCY & WATSON, LLP
200 Park Avenue
Suite 300
Beachwood, OH 44122

EXAMINER
WONG, LINDA

ART UNIT	PAPER NUMBER
2656	

NOTIFICATION DATE	DELIVERY MODE
08/20/2020	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@thepatentattorneys.com
hmckee@thepatentattorneys.com
rveri@thepatentattorneys.com

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No. 16/290,983	Applicant(s) Naganuma, Tatsumi	
	Examiner LINDA WONG	Art Unit 2656	AIA (FITF) 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 3/4/2019.

☐ 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) 1-6 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) 1-6 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 3/4/2019 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: _____.

Notice of Pre-AIA or AIA Status

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

Drawings

The drawings were received on 3/4/2019. These drawings are accepted.

Claim Rejections - 35 USC § 102

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

Claim(s) 1,3-6 is/are rejected under 35 U.S.C. 102a2 as being anticipated by Tsai et al (US Publication No.: 20190130900).

Claim 1, Tsai et al discloses

a voice classifying unit configured to (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the

apparatus as a central processor (CPU). Paragraph 15 of Tsai et al discloses the apparatus of a voice interactive device as a general purpose processor, wherein a CPU is a type of general purpose processor. Fig. 1, label 130 as the voice classifying unit.) analyze a voice spoken by a user (Fig. 1b, label W1 as the voice or audio input by a speaker. (Paragraph 18)) and acquired by a voice acquiring unit (Fig. 1b, label 105) to classifying the voice as either one of a first voice or a second voice (Paragraph 19 discloses the speaker classification determining module classifies the speaking sentence W1 (input voice) to classification type based on tone of the voice input and the semantic meaning of the voice input. Paragraph 35 discloses examples of the voice input W1 classified in different classifications.);

a process executing unit configured to (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Paragraph 15 of Tsai et al discloses the apparatus as a general purpose processor, wherein CPU is a type of general purpose processor. Fig. 1b, label 110,120) analyze the voice acquired by the voice acquiring unit to execute processing required by the user (Fig. 1b, label 110,120 analyzes the voice input, label W1, to determine the semantic meaning and tone.); and

a voice content generating unit configured to (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Paragraph 15 of Tsai et al discloses the apparatus as a general purpose processor, wherein CPU is a type of general purpose processor. Fig. 1b, label 140,150) generate, based on content of the processing executed by the process executing unit, output sentence that is text data for a voice to be output to the user (Fig.

1b, label 140,150 generates a response based on the output from label 130, which is dependent on the output from labels 110,120.),

wherein the voice content generating unit is further configured to generate a first output sentence as the output sentence when the acquired voice has been classified as the first voice (Fig. 1b, label 130,140 generates a sentence output based on the classification of the voice input, W1. Paragraph 35 discloses based on the classification, the response sentence is generated.), and

generate a second output sentence in which information is omitted as compared to the first output sentence as the output sentence when the acquired voice has been classified as the second voice (paragraph 35 discloses a first response sentence S1 is generated according to the classification of the speaker. For example, when the speaker belongs to the "tired state" classification, the response sentence S1 is "Get up early tomorrow! I suggests you could take a nap, you need to set an alarm clock?". A second response sentence is generated and outputted when the voice input is classified in a different state. For example, when W1 is classified into "sick state", the second response sentence is "It is recommended that you lie down. Do you need my help with contacting your relatives or health care workers or providing you with medical information?". Due to the different classification, the response sentence will omit information that is not relevant to the classification. For example, in the example above, the second response sentence for "sick state" classification does not include nap or setting an alarm.).

Claim 3, Tsai et al discloses on generating the second sentence, the voice-content generating unit is further configured to omit a part of information included in the voice spoken by the user. (paragraph 35 discloses a second response sentence is generated and outputted when the voice input is classified in a different state. For example, when

W1 is classified into “sick state”, the second response sentence is “It is recommended that you lie down. Do you need my help with contacting your relatives or health care workers or providing you with medical information?”. Due to the different classification, the response sentence will omit information that is not relevant to the classification. In the example above, the second response sentence for “sick state” classification does not include information included in the voice spoken by the user, such as “tired”.)

Claim 4, Tsai et al discloses when the voice spoken by the user is a whispered voice, the voice classifying unit is further configured to classify the voice as the second voice (Paragraph 19 discloses classification of W1 is based on the tone and semantic meaning. Table 1 (paragraph 24) shows the output from tone analyzing module, wherein the volume is used to determine classification in the speaker classification determining module 130.).

Claim 5, Tsai et al discloses

acquired a voice spoken by a user (Fig. 1b, label 105);

analyzing the acquired voice (Fig. 1b, label W1 as the voice or audio input by a speaker. (Paragraph 18)) to classify the acquired voice as either one of a first voice or a second voice (Fig. 1b, label 130, Paragraph 19 discloses the speaker classification determining module classifies the speaking sentence W1 (input voice) to classification type based on tone of the voice input and the semantic meaning of the voice input. Paragraph 35 discloses examples of the voice input W1 classified in different classifications.);

analyzing the acquired voice to execute processing required by the user (Fig. 1b, label 110,120 analyzes the voice input, label W1, to determine the semantic meaning and tone.); and

generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user (Fig. 1b, label 140,150 generates a response based on the output from label 130, which is dependent on the output from labels 110,120.),

wherein at the generating, a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice (Fig. 1b, label 130,140 generates a sentence output based on the classification of the voice input, W1. Paragraph 35 discloses based on the classification, the response sentence is generated.), and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice (paragraph 35 discloses a first response sentence S1 is generated according to the classification of the speaker. For example, when the speaker belongs to the "tired state" classification, the response sentence S1 is "Get up early tomorrow! I suggests you could take a nap, you need to set an alarm clock?". A second response sentence is generated and outputted when the voice input is classified in a different state. For example, when W1 is classified into "sick state", the second response sentence is "It is recommended that you lie down. Do you need my help with contacting your relatives or health care workers or providing you with medical information?". Due to the different classification, the response sentence will omit information that is not relevant to the classification. For example, in the example above, the second response sentence for "sick state" classification does not include nap or setting an alarm.).

Claim 6, Tsai et al discloses

acquired a voice spoken by a user (Fig. 1b, label 105);

analyzing the acquired voice (Fig. 1b, label W1 as the voice or audio input by a speaker. (Paragraph 18)) to classify the acquired voice as either one of a first voice or a second voice (Fig. 1b, label 130, Paragraph 19 discloses the speaker classification determining module classifies the speaking sentence W1 (input voice) to classification type based on tone of the voice input and the semantic meaning of the voice input. Paragraph 35 discloses examples of the voice input W1 classified in different classifications.);

analyzing the acquired voice to execute processing required by the user (Fig. 1b, label 110,120 analyzes the voice input, label W1, to determine the semantic meaning and tone.); and

generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user (Fig. 1b, label 140,150 generates a response based on the output from label 130, which is dependent on the output from labels 110,120.),

wherein at the generating, a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice (Fig. 1b, label 130,140 generates a sentence output based on the classification of the voice input, W1. Paragraph 35 discloses based on the classification, the response sentence is generated.), and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice (paragraph 35 discloses a first response sentence S1

is generated according to the classification of the speaker. For example, when the speaker belongs to the "tired state" classification, the response sentence S1 is "Get up early tomorrow! I suggests you could take a nap, you need to set an alarm clock?". A second response sentence is generated and outputted when the voice input is classified in a different state. For example, when W1 is classified into "sick state", the second response sentence is "It is recommended that you lie down. Do you need my help with contacting your relatives or health care workers or providing you with medical information?". Due to the different classification, the response sentence will omit information that is not relevant to the classification. For example, in the example above, the second response sentence for "sick state" classification does not include nap or setting an alarm.).

Claim Rejections - 35 USC § 103

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 2 is/are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Tsai et al (US Publication No.: 20190130900) in view of Nandy et al (US Publication No. : 20190180740).

Claim 2, Tsai et al discloses the processing executing unit (Fig. 1b, label 110,120) and the voice generating unit (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Paragraph 15 of Tsai et al discloses the apparatus as a general purpose processor, wherein CPU is a type of general purpose processor. Fig. 1b, label 140,150) but fails to disclose the processing executing unit comprises:

an intention analyzing unit configured to extract intention information indicating an intention of the user based on the voice acquiring by the voice acquiring unit; and

an acquisition content information acquiring unit configured to acquire acquisition content information which is notified to the user based on the extracted intention information, and

the voice content generating unit is further configured to generate the text data including the acquisition content information as the output sentence.

Nandy et al discloses a processing executing unit (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Fig. 7a, label 128,702) comprises:

an intention analyzing unit configured to (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Fig. 7a, label 754,702) extract intention information indicating an intention of the user based on the voice acquiring by the voice acquiring unit (Paragraph 34,145 discloses label 216 identifies the intent of the caller's utterance.); and

an acquisition content information acquiring unit configured to (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Fig. 7a, label 754,702,128.) acquire acquisition content information which is notified to the user based on the extracted intention information (Paragraph 145 discloses label 742 generates the command based on the intent and/or additional content. The response output notifies the user that the command is performed which indicates the content information such as the user request is "please hang up my phone call" (paragraph 143), the response is "we have hung up your phone call" (paragraph 145).), and

the voice content generating unit is further configured to (Such limitation invokes 35 USC 112f, hence incorporates the apparatus as defined in the specification. Paragraph 15 discloses the apparatus as a CPU. Paragraph 15 of Tsai et al discloses the apparatus as a general purpose processor, wherein CPU is a type of general purpose processor. Fig. 7a, label 754, Fig. 7b, label 744) generate the text data including the acquisition content information as the output sentence (Paragraph 145 discloses label 742 generates text to speech output for the user's request. The response output notifies the user that the command is performed which indicates the content information such as the user request is "please hang up my phone call" (paragraph 143), the response is "we have hung up your phone call" (paragraph 145).).

Tsai e tal discloses speech recognition using semantic analysis (Fig. 1b) and Nandy et al discloses performing speech recognition with semantic analysis using a NLU and command processor as shown in Fig. 7a,7b, hence it would be obvious to one skilled in the art before the effective filing date of the application to modify Tsai et al's semantic analysis or processing executing unit by performing semantic analysis as disclosed by

Nandy et al so to improve the user's experience by providing clear communication in response to a user's utterance or request and clearly understanding the user's utterance or request so to correctly and clearly perform the user's utterance or request.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINDA WONG whose telephone number is (571)272-6044. The examiner can normally be reached on 9-5.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. 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 https://ppair-my.uspto.gov/pair/PrivatePair. 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.

/LINDA WONG/
Primary Examiner, Art Unit 2656

Notice of References Cited	Application/Control No. 16/290,983	Applicant(s)/Patent Under Reexamination Naganuma, Tatsumi	
	Examiner LINDA WONG	Art Unit 2656	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-20190130900-A1	05-2019	Tsai; Cheng-Hung	G10L15/22	1/1
*	B	US-20190180740-A1	06-2019	Nandy; Dibyendu	G10L15/30	1/1
	C					
	D					
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FOREIGN PATENT DOCUMENTS

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*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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*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.

PTO/SB/08a (01-10)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	16290983
Filing Date	2019-03-04
First Named Inventor	Naganuma
Art Unit	
Examiner Name	
Attorney Docket Number	SAJVP171US

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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	Filing Date	2019-03-04
	First Named Inventor	Naganuma
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Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

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Signature	/Greg Turocy/	Date (YYYY-MM-DD)	2019-03-04
Name/Print	Gregory Turocy	Registration Number	36952

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出願人 Applicant(s):	株式会社ＪＶＣケンウッド

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【書類名】明細書
【発明の名称】音声内容制御装置、音声内容制御方法、及び音声内容制御プログラム
【技術分野】
【０００１】
本発明は、音声内容制御装置、音声内容制御方法、及び音声内容制御プログラムに関する。
【背景技術】
【０００２】
例えば特許文献１に示すように、検出したユーザの音声を解析して、ユーザの意図に応じた処理を行う音声制御装置が提案されている。また、ユーザの意図した処理を行ったことを音声で出力したり、ユーザの問い合わせ内容を音声で出力したりする音声制御装置も提案されている。
【先行技術文献】
【特許文献】
【０００３】
【特許文献１】特公平７―１０９５６０号公報
【発明の概要】
【発明が解決しようとする課題】
【０００４】
しかし、音声を出力する音声処理装置を用いる場合、ユーザ以外の周囲にいる人にもその音声が聞こえてしまう場合がある。例えば周囲にいる人が寝ている際には、その音声が迷惑となるおそれがある。このような場合、出力する音声自体を小さくしてもよいが、小さくし過ぎると、ユーザ自身にもその音声が聞こえ難くなり、内容が理解できなくなるおそれがある。従って、ユーザに音声を出力する場合に、ユーザ以外への影響を抑えつつ、ユーザに出力する音声の内容を適切に理解可能とすることが求められている。
【０００５】
本発明は、上記課題を鑑み、ユーザに音声を出力する場合に、ユーザ以外への影響を抑えつつ、ユーザに出力する音声の内容を適切に理解可能とする音声内容制御装置、音声内容制御方法、及び音声内容制御プログラムを提供することを目的とする。
【課題を解決するための手段】
【０００６】
本発明の一態様にかかる音声内容制御装置は、音声取得部が取得したユーザが発する音声を解析して、前記音声を、第１音声と第２音声とのいずれかに分類する音声分類部と、前記音声取得部が取得した音声を解析して、前記ユーザが要求する処理を実行する処理実行部と、前記処理実行部が実行した処理内容に基づき、前記ユーザに向けて出力する音声用の文章データである出力文章を生成する音声内容生成部と、を有し、前記音声内容生成部は、前記第１音声と分類された場合に、前記出力文章として第１出力文章を生成し、前記第２音声と分類された場合に、前記第１出力文章と比べて情報が省略される第２出力文章を、前記出力文章として生成する。
【０００７】
本発明の一態様にかかる音声内容制御方法は、ユーザが発する音声を取得する音声取得ステップと、前記音声取得ステップで取得した音声を解析して、前記音声を、第１音声と第２音声とのいずれかに分類する音声分類ステップと、前記音声取得ステップで取得した音声を解析して、前記ユーザが意図した処理を実行する処理実行ステップと、前記処理実行ステップで実行した処理内容に基づき、前記ユーザに向けて出力する音声用の文章データである出力内容を生成する音声内容生成ステップと、を有し、前記音声内容生成ステップにおいて、前記第１音声と分類された場合に、前記出力文章として第１出力文章を生成し、前記第２音声と分類された場合に、前記前記第１出力文章に含まれる情報の一部が省略される第２出力文章を生成する。
【０００８】

本発明の一態様にかかる音声内容制御プログラムは、ユーザが発する音声を取得する音声取得ステップと、前記音声取得ステップで取得した音声を解析して、前記音声を、第１音声と第２音声とのいずれかに分類する音声分類ステップと、前記音声取得ステップで取得した音声を解析して、前記ユーザが意図した処理を実行する処理実行ステップと、前記処理実行ステップで実行した処理内容に基づき、前記ユーザに向けて出力する音声用の文章データである出力内容を生成する音声内容生成ステップと、をコンピュータに実行させ、前記音声内容生成ステップにおいて、前記第１音声と分類された場合に、前記出力文章として第１出力文章を生成し、前記第２音声と分類された場合に、前記前記第１出力文章に含まれる情報の一部が省略される第２出力文章を生成する。

【発明の効果】

【０００９】

本発明によれば、ユーザに音声を出力する場合に、ユーザ以外への影響を抑えつつ、ユーザに出力する音声の内容を適切に理解可能とすることができる。

【図面の簡単な説明】

【０００１０】

【図１】図１は、第１実施形態に係る音声内容制御装置の模式図である。

【図２】図２は、第１実施形態に係る音声内容制御装置の模式的なブロック図である。

【図３】図３は、属性情報の一例を説明する表である。

【図４】図４は、取得情報を説明するための表である。

【図５】図５は、第１実施形態に係る出力文章の出力処理のフローを示すフローチャートである。

【図６】図６は、出力文章の出力処理のフローの他の例を示すフローチャートである。

【図７】図７は、第２実施形態に係る音声処理システムの模式的なブロック図である。

【００１１】

以下に、本発明の実施形態を図面に基づいて詳細に説明する。なお、以下に説明する実施形態により本発明が限定されるものではない。

【００１２】

（第１実施形態）

最初に、第１実施形態について説明する。図１は、第１実施形態に係る音声内容制御装置の模式図である。図１に示すように、第１実施形態に係る音声内容制御装置１は、ユーザＨが発する音声Ｖ１を音声検出部１０で検出し、検出した音声Ｖ１を解析して所定の処理を行って、音声出力部１２により、音声Ｖ２を出力するものである。ここで、音声Ｖ２は、ユーザＨに向かって出力されるが、音声内容制御装置１の周囲に他の人がいる場合、その人にも届く場合がある。その人が寝ている際などには、音声Ｖ２が、その人の迷惑となるおそれがある。本実施形態に係る音声内容制御装置１は、音声Ｖ１を解析して、音声Ｖ２として出力される文章を調整することで、音声Ｖ２のユーザＨ以外への影響を抑えつつ、ユーザＨが音声Ｖ２の内容を適切に理解可能としている。

【００１３】

図２は、第１実施形態に係る音声内容制御装置の模式的なブロック図である。図２に示すように、音声内容制御装置１は、音声検出部１０と、音声出力部１２と、点灯部１４と、制御部１６と、通信部１８と、記憶部２０とを有する。音声内容制御装置１は、いわゆるスマートスピーカ（ＡＩスピーカ）であるが、後述する機能を発揮する装置であれば、それに限られない。音声内容制御装置１は、例えばスマートフォンやタブレットなどであってもよい。

【００１４】

音声検出部１０は、マイクであり、ユーザＨが発する音声Ｖ１を検出する。ユーザＨは、音声検出部１０に向けて、音声内容制御装置１に実行して欲しい処理内容の情報を含め

るように、音声Ｖ１を発する。なお、音声検出部１０は、外部からの情報を受け付ける入力部であるともいえるが、入力部は、音声検出部１０以外にも設けられていてよく、例えば、ユーザＨの操作により音声Ｖ２の音量を調整するスイッチなどが設けられていてもよい。音声出力部１２は、スピーカであり、制御部１６が生成した文章（後述する出力文章）を、音声Ｖ２として出力する。点灯部１４は、例えばＬＥＤ（Laser Emitting Diode）などの光源であり、制御部１６の制御により、点灯する。通信部１８は、例えばＷｉ―Ｆｉ（登録商標）モジュール、アンテナなど、外部サーバなどに通信する機構であり、制御部１６の制御により、図示しない外部サーバと情報の送受信を行う。通信部１８は、Ｗｉ―Ｆｉなどの無線通信により外部サーバと情報の送受信を行うが、ケーブルなどと接続することで有線通信により外部サーバと情報の送受信を行ってもよい。記憶部２０は、制御部１６の演算内容やプログラムの情報などを記憶するメモリであり、例えば、ＲＡＭ（Ｒａｎｄｏｍ　Ａｃｃｅｓｓ　Ｍｅｍｏｒｙ）と、ＲＯＭ（Ｒｅａｄ　Ｏｎｌｙ　Ｍｅｍｏｒｙ）と、フラッシュメモリ（Ｆｌａｓｈ　Ｍｅｍｏｒｙ）などの外部記憶装置とのうち、少なくとも１つ含む。

【００１５】

制御部１６は、演算装置、すなわちＣＰＵ（Ｃｅｎｔｒａｌ　Ｐｒｏｃｅｓｓｉｎｇ　Ｕｎｉｔ）である。制御部１６は、音声取得部３０と、音声解析部３２と、処理実行部３４と、音声内容生成部３６と、音声分類部３８と、出力制御部４０とを有する。音声取得部３０と、音声解析部３２と、処理実行部３４と、音声内容生成部３６と、音声分類部３８と、出力制御部４０とは、記憶部２０に記憶されたソフトウェア（プログラム）を読み出すことで、後述する処理を実行する。

【００１６】

音声取得部３０は、音声検出部１０が検出した音声Ｖ１を取得する。音声解析部３２は、音声取得部３０が取得した音声Ｖ１の音声解析を実行して、音声Ｖ１をテキストデータに変換する。テキストデータは、音声Ｖ１として発せられた文章を含む文字データ（テキストデータ）である。音声解析部３２は、例えば、音声Ｖ１から、時間毎の振幅や波長などによる音声波形を検出する。そして、音声解析部３２は、音声波形と、文字との関係を記憶したテーブルに基づき、時間毎の音声波形をそれぞれ文字に置き換えることで、音声Ｖ１をテキストデータに変換する。ただし、音声解析部３２は、音声Ｖ１をテキストデータに変換できるものであれば、変換の方法は任意である。

【００１７】

処理実行部３４は、音声解析部３２が生成したテキストデータに基づき、音声Ｖ１に含まれた、音声内容制御装置１に実行して欲しい処理内容の情報を検出し、その処理を実行する。処理実行部３４は、意図解析部５０と、処理部５２とを有する。

【００１８】

意図解析部５０は、音声解析部３２が生成したテキストデータを取得して、テキストデータに基づき、意図情報Ｉを抽出し、意図情報Ｉに基づき、属性情報Ｅを抽出する。意図情報Ｉとは、ユーザＨの意図を示す情報、すなわちインテントである。属性情報Ｅとは、意図情報Ｉに紐づいた情報であり、ユーザＨが意図する処理を実行する際に必要となる条件を示す情報である。すなわち、属性情報Ｅは、エンティティである。

【００１９】

まず、意図情報Ｉの抽出処理について説明する。意図情報Ｉ、すなわちインテントは、言い換えれば、ユーザＨが、音声内容制御装置１にどのような処理を行うことを意図しているかを示す情報である。換言すれば、意図情報Ｉとは、ユーザＨが音声内容制御装置１に対してどのような処理を行うことを要求しているかの情報である。意図解析部５０は、例えば自然言語処理を用いて、テキストデータから意図情報Ｉを抽出する。本実施形態では、意図解析部５０は、記憶部２０に記憶されている複数の教師ありデータに基づき、テキストデータから意図情報Ｉを抽出する。ここでの教師ありデータは、テキストデータに対して意図情報Ｉが予め設定されているデータである。すなわち、意図解析部５０は、音声解析部３２が生成したテキストデータと類似している教師ありデータを抽出し、その教

師ありデータの意図情報Ｉを、音声解析部３２が生成したテキストデータの意図情報Ｉとする。なお、教師ありデータは、記憶部２０に記憶されていなくてもよく、意図解析部５０が、通信部１８を制御して外部サーバから教師ありデータを検索してもよい。なお、意図解析部５０は、テキストデータから意図情報Ｉを抽出するものであれば、意図情報Ｉの抽出方法は任意である。例えば、意図解析部５０は、記憶部２０に記憶されたキーワードと意図情報Ｉとの関係テーブルを読み出し、テキストデータに関係テーブル中のキーワードが含まれている場合に、そのキーワードに紐づいた意図情報Ｉを抽出してもよい。

【００２０】

例えばテキストデータが「今日の天気は」という文章である場合、意図解析部５０は、上述のような解析を行って、天気情報をユーザＨに通知するという処理が、ユーザＨが要求している処理の情報である、すなわち意図情報Ｉであると認識する。また、意図解析部５０は、例えばテキストデータが「照明をつけて」という文章である場合、上述のような解析を行って、照明の電源をオンにするという処理が、ユーザＨが要求している処理の情報である、すなわち意図情報Ｉであると認識する。このように、意図情報Ｉは、要求された情報を通知する旨の情報と、要求されたように機器を制御する旨の情報とに分類される。

【００２１】

なお、テキストデータによる意図情報Ｉの抽出方法は、これに限られず任意である。例えば、音声内容制御装置１は、キーワードと意図情報Ｉとの関係テーブルを記憶部２０に記憶しておき、ユーザＨが発した音声Ｖ１のテキストデータがそのキーワードを含む場合に、そのキーワードに紐付けられた意図情報Ｉを検出してもよい。この場合の例としては、「こんにちは」というキーワードと、天気情報及びニュースの情報とを紐付けておくことが挙げられる。この場合、ユーザＨが「こんにちは」という音声Ｖ１を発すると、意図解析部５０は、天気情報とニュースの情報とを、意図情報Ｉとして検出する。

【００２２】

次に、属性情報Ｅについて説明する。図３は、属性情報の一例を説明する表である。属性情報Ｅ、すなわちエンティティは、意図情報Ｉとして抽出されたユーザＨの要求する処理を実行する際に必要とされる条件、すなわちパラメータである。例えば、意図情報Ｉが、天気情報である場合、属性情報Ｅは、どこの天気情報であるかを示す場所の情報と、いつの天気情報であるかを示す日時の情報とを含む。さらに言えば、図３に示すように、属性情報Ｅは、属性パラメータＥ０と、属性内容Ｅ１との情報を含む。属性パラメータＥ０は、パラメータの種類、すなわちどのような条件であるかを示す情報であり、属性内容Ｅ１は、その属性パラメータＥ０の内容を指す。すなわち、属性情報Ｅが場所の情報の場合、属性パラメータＥ０は、条件が場所である旨の情報であり、属性内容Ｅ１は、場所が東京である旨の情報である。また、属性情報Ｅが日時の情報の場合、属性パラメータＥ０は、条件が日時である旨の情報であり、属性内容Ｅ１は、日時がＸ年Ｙ月Ｚ日である旨の情報である。

【００２３】

本実施形態では、意図解析部５０は、抽出した意図情報Ｉに基づき、属性情報Ｅを抽出する。より詳しくは、意図解析部５０は、抽出した意図情報Ｉから、属性パラメータＥ０を選択して抽出する。意図解析部５０は、記憶部２０に記憶されている意図情報Ｉと属性パラメータＥ０との関係テーブルを読み出し、関係テーブルから、抽出した意図情報Ｉと一致する意図情報Ｉを検出する。そして、意図解析部５０は、一致する意図情報Ｉと紐付けられた属性パラメータＥ０を抽出する。ただし、意図解析部５０は、通信部１８を介して外部サーバと通信し、外部サーバから関係テーブルを取得してもよい。

【００２４】

意図解析部５０は、属性パラメータＥ０を抽出したら、属性パラメータＥ０毎に、属性内容Ｅ１を設定する。意図解析部５０は、例えば、音声解析部３２が生成したテキストデータから、属性内容Ｅ１を抽出する。すなわち、テキストデータに「今日」というキーワードが含まれていたら、日時の属性パラメータＥ０の属性内容Ｅ１を本日に設定する。ま

た、意図解析部５０は、属性パラメータＥ０に対する属性内容Ｅ１を予め設定していてもよい。例えば、記憶部２０に、予め、意図情報Ｉが天気情報である場合、場所の属性内容Ｅ１が、東京である旨の設定データを記憶させておく。このようにしておけば、テキストデータに場所を示すキーワードが含まれない場合でも、意図解析部５０は、場所の属性内容Ｅ１を東京として設定可能である。また、意図解析部５０は、通信部１８によって外部サーバと通信して属性内容Ｅ１を設定してもよい。この場合、例えば、意図解析部５０は、ＧＰＳ（位置情報測位システム）などの通信により現在の場所を取得し、それを属性内容Ｅ１として設定する。

【００２５】

意図解析部５０は、以上のようにして、意図情報Ｉと属性情報Ｅとを抽出するが、意図情報Ｉと属性情報Ｅとの抽出方法は、上記に限られず任意である。なお、図３は、天気情報が意図情報Ｉの場合であるが、他の場合でも同様に意図情報Ｉと属性情報Ｅとを抽出可能である。例えば、照明の電源をオンにするという情報が意図情報Ｉである場合、属性情報Ｅは、照明の場所の情報と、いつ電源をオンにするかという日時の情報とを含む。

【００２６】

図２に戻り、処理部５２は、意図情報Ｉの内容に基づき、ユーザが要求する処理を実行する。処理部５２は、意図情報Ｉが機器を制御する旨である場合、意図情報Ｉの内容の処理を実行する。例えば、処理部５２は、属性情報Ｅで示された場所の照明の電源をオンにする。

【００２７】

図４は、取得情報を説明するための表である。処理部５２は、意図情報Ｉが要求された情報を通知する旨である場合、要求された情報、すなわち取得情報Ａを取得する。取得情報Ａとは、ユーザＨに通知するための情報であり、言い換えれば、ユーザＨが通知を求めている情報であると処理実行部３４によって判断された情報である。処理部５２は、意図解析部５０が抽出した意図情報Ｉに基づき、取得情報Ａを取得する。より詳しくは、処理部５２は、抽出した意図情報Ｉから、取得パラメータＡ０を選択して抽出する。処理部５２は、記憶部２０に記憶されている意図情報Ｉと取得パラメータＡ０との関係テーブルを読み出し、抽出した意図情報Ｉと一致する意図情報Ｉを、関係テーブルから検出する。そして、処理部５２は、一致する意図情報Ｉと紐付けられた取得パラメータＡ０を抽出する。ただし、処理部５２は、通信部１８を介して外部サーバと通信し、外部サーバから関係テーブルを取得してもよい。

【００２８】

処理部５２は、取得パラメータＡ０を抽出したら、属性情報Ｅに基づき、取得パラメータＡ０毎に、取得内容情報Ａ１を取得する。具体的には、処理部５２は、属性パラメータＥ０が設定した属性内容Ｅ１となる場合の取得内容情報Ａ１を、取得パラメータＡ０毎に取得する。処理部５２は、通信部１８によって外部サーバ（外部機器）と通信して、取得パラメータＡ０毎に、外部サーバから、取得内容情報Ａ１を取得する。ただし、処理部５２は、記憶部２０に取得内容情報Ａ１が記憶されている場合、記憶部２０から取得内容情報Ａ１を取得してもよい。すなわち、取得内容情報Ａ１とは、処理部５２が、外部サーバや記憶部２０などのデータベースから取得するデータであるといえる。

【００２９】

このように、取得内容情報Ａ１は、処理部５２が、外部サーバとの通信、又は、記憶部２０からの読出しにより取得した情報である。図４の例では、意図情報Ｉが天気であり、取得パラメータＡ０が、天気、気温、及び降水確率である。この場合、処理部５２は、Ｘ年Ｙ月Ｚ日の東京における、天気、気温、及び降水確率の各取得パラメータＡ０に対する取得内容情報Ａ１を取得する。図４の例では、天気についての取得内容情報Ａ１が、「晴れ時々曇り」であり、気温についての取得内容情報Ａ１が、「最高気温：２５度、最低気温：１５度」であり、降水確率についての取得内容情報Ａ１が、「２０％」である。

【００３０】

以上のように、処理部５２は、取得パラメータＡ０毎の取得内容情報Ａ１を、属性情報

Ｅに基づき取得する。なお、本実施形態では、意図情報Ｉに、複数の取得パラメータＡ０が紐付けられていた。ただし、意図情報Ｉに１つの取得パラメータＡ０が紐付けられてもよい。この場合、意図情報Ｉそのものが、取得パラメータＡ０であるといえる。

【００３１】

図２に戻り、音声内容生成部３６は、処理部５２が取得した取得内容情報Ａ１に基づき、出力文章を生成する。出力文章とは、音声出力部１２に出力させる音声Ｖ２用の文章のデータ、すなわちテキストデータである。出力文章は、ダイアログデータであるということもできる。音声内容生成部３６は、出力文章として第１出力文章を生成する第１出力文章生成部６０と、出力文章として第２出力文章を生成する第２出力文章生成部６２とを有する。第１出力文章生成部６０と第２出力文章生成部６２とを説明する前に、音声分類部３８について説明する。

【００３２】

音声分類部３８は、音声取得部３０が取得した音声Ｖ１を解析して、音声Ｖ１を、第１音声Ｖ１Ａと第２音声Ｖ１Ｂとのいずれかに分類する。本実施形態では、音声分類部３８は、音声Ｖ１を解析して、音声Ｖ１がささやき声である場合、その音声Ｖ１を第２音声Ｖ１Ｂに分類する。そして、音声分類部３８は、音声Ｖ１がささやき声でない場合、その音声Ｖ１を第１音声Ｖ１Ａに分類する。ささやき声とは、声帯を振動させず無声化したときの声であるが、例えば後述の方法で第２音声Ｖ１Ｂとして分類される声であれば、声帯を振動させず無声化したときの声であることに限られない。

【００３３】

例えば、音声分類部３８は、音声Ｖ１の強度の時間波形を取得し、その時間波形をフーリエ変換することで、周波数毎の音声Ｖ１の強度を示すスペクトルを取得する。そして、音声分類部３８は、スペクトルが有する所定強度以上のピークの周波数を特徴量として、音声Ｖ１が、第１音声Ｖ１Ａであるか第２音声Ｖ１Ｂであるか分類する。例えば、音声分類部３８は、ピークの周波数が閾値以下である場合、ささやき声であるとして、第２音声Ｖ１Ｂであると分類し、ピークの周波数が閾値より大きい場合、ささやき声でないとして、第１音声ＶＢであると分類する。ただし、音声分類部３８は、任意の方法で、第１音声Ｖ１Ａと第２音声Ｖ１Ｂとを分類してもよい。例えば、音声分類部３８は、スペクトルのピークの傾きを特徴量として、第１音声Ｖ１Ａと第２音声Ｖ１Ｂとを分類してもよい。また、音声分類部３８は、音声Ｖ１の音量、音声Ｖ１に含まれるユーザＨの発語の速度、及び、音声Ｖ１のうちの人の発語と風切音との音量比のいずれかを特徴量として、第１音声Ｖ１Ａと第２音声Ｖ１Ｂとを分類してもよい。また、音声内容制御装置１に近接センサを設け、近接センサの検出結果によりユーザＨと音声内容制御装置１との間の距離を算出し、その距離を特徴量として、第１音声Ｖ１Ａと第２音声Ｖ１Ｂとを分類してもよい。また、音声分類部３８は、音声Ｖ１から、特徴量としてメル周波数ケプストラム係数を導出して、メル周波数ケプストラム係数に基づき、第１音声Ｖ１Ａと第２音声Ｖ１Ｂとを分類してもよい。これらの場合において、音声分類部３８は、特徴量について閾値を設定しておき、特徴量が閾値を上回るか否かに基づき、音声Ｖ１を、第１音声Ｖ１Ａと第２音声Ｖ１Ｂとのいずれかに分類する。

【００３４】

このように、音声分類部３８は、音声取得部３０が取得した音声Ｖ１を用いて、音声Ｖ１を分類するものである。すなわち、音声分類部３８は、音声Ｖ１の意味が同じであっても、音声Ｖ１がささやき声である場合は、第２音声Ｖ１Ｂに分類し、音声Ｖ１がささやき声でない場合は、第１音声Ｖ１Ａに分類する。

【００３５】

また、音声分類部３８は、音声Ｖ１から第１音声Ｖ１Ａであるか第２音声Ｖ１Ｂであるかを分類する方法に限らない。音声取得部３０が取得した音声Ｖ１に対して文字解析を行うことで音声Ｖ１のテキストデータを生成し、音声Ｖ１のテキストデータを用いて分類することであってもよい。例えば、音声分類部３８は、ささやき声であるかの判定ではなく、例えば音声Ｖ１に含まれるキーワードに基づき音声Ｖ１を分類してもよい。すなわち、

音声分類部３８は、音声Ｖ１に、記憶部２０が記憶したキーワードが含まれる場合に、第２音声Ｖ１Ｂであると分類し、記憶部２０が記憶したキーワードが含まれない場合に、第１音声Ｖ１Ａであると分類してもよい。

【００３６】

音声分類部３８は、以上説明した分類方法のいずれかを用いてもよいし、以上説明した分類方法を組み合わせて、分類を行ってもよい。

【００３７】

音声内容生成部３６は、音声分類部３８によって、音声Ｖ１が第１音声Ｖ１Ａであると分類された場合に、第１出力文章生成部６０に、第１出力文章を生成させる。すなわち、音声内容生成部３６は、音声Ｖ１が第１音声Ｖ１Ａであると分類された場合には、第２出力文章を生成せず第１出力文章を生成する。第１出力文章生成部６０は、処理実行部３４に取得された意図情報Ｉと属性情報Ｅ（より詳しくは属性内容Ｅ１）と取得情報Ａとの全ての情報を含む文章を、第１出力文章として生成する。すなわち、第１出力文章とは、処理実行部３４に取得された意図情報Ｉと属性内容Ｅ１と取得情報Ａとを全て含むテキストデータである。

【００３８】

図３及び図４の例では、意図情報Ｉが、「天気」であり、属性内容Ｅ１が、「Ｘ年Ｙ月Ｚ日」、「東京」である。そして、取得情報Ａのうち、取得パラメータＡ０が、「天気」、「気温」、「降水確率」であり、取得内容情報Ａ１が、「晴れ時々曇り」、「最高気温：２５度、最低気温：１５度」、「２０％」である。この場合、第１出力文章生成部６０は、例えば、「Ｘ年Ｙ月Ｚ日の東京の天気は晴れ時々曇り、降水確率は２０％、最高気温は２５度、最低気温は１５度です」という文章を、第１出力文章として生成する。意図情報Ｉと属性内容Ｅ１と取得情報Ａとは、それぞれ個別の情報である。第１出力文章生成部６０は、第１出力文章を、意図情報Ｉと属性内容Ｅ１と取得情報Ａとを含む文章とするために、第１出力文章に情報を加える。すなわち、第１出力文章生成部６０は、意図情報Ｉ、属性内容Ｅ１、及び取得情報Ａ以外の情報（単語）を、第１出力文章に加えている。この加える情報（単語）としては、日本語であれば「です」などの丁寧語や、「は」などの助詞などであり、英語であれば冠詞などである。以下、この情報を、文章用情報とする。

【００３９】

一方、音声内容生成部３６は、音声分類部３８によって、音声Ｖ１が第２音声Ｖ１Ｂであると分類された場合に、第２出力文章生成部６２に、第２出力文章を生成させる。すなわち、音声内容生成部３６は、音声Ｖ１が第２音声Ｖ１Ｂであると分類された場合には、第１出力文章を生成せず第２出力文章を生成する。第２出力文章生成部６２は、第１出力文章に比べて、情報の一部が省略されるように文章を生成することで、第２出力文章を生成する。従って、第２出力文章は、第１出力文章よりも、文章量が少なくなる。さらに言えば、同じ意図情報Ｉと属性情報Ｅと取得情報Ａとに基づき第１出力文章と第２出力文章とを生成したと仮定した場合、第２出力文章は、第１出力文章に比べて含まれる情報が省略されるため、第１出力文章よりも文章量が少なくなる。

【００４０】

具体的には、第２出力文章生成部６２は、処理実行部３４が取得した意図情報Ｉ、属性内容Ｅ１、及び取得情報Ａと、第１出力文章を生成する場合に加えられた文章用情報との、少なくともいずれかが含まれないように、第２出力文章を生成する。言い換えれば、第２出力文章生成部６２は、同じ意図情報Ｉと属性情報Ｅと取得情報Ａとに基づき第１出力文章を生成したと仮定した場合に、第１出力文章に含まれた意図情報Ｉと属性内容Ｅ１と取得情報Ａと文章用情報との少なくともいずれかを省略して、第２出力文章を生成する。

【００４１】

意図情報Ｉを含めない場合、すなわち意図情報Ｉを省略する場合、例えば、第２出力文章は、意図情報Ｉである「天気」が省略され、「Ｘ年Ｙ月Ｚ日の東京は晴れ時々曇り、降水確率は２０％、最高気温は２５度、最低気温は１５度です」となる。ユーザＨは、意図情報Ｉが尋ねたい情報の種類であるため、その意図情報Ｉが省略されても、内容を把握す

ることができる。
【００４２】
また、属性内容Ｅ１を含めない、すなわち属性内容Ｅ１を省略する場合、例えば、第２出力文章は、属性内容Ｅ１である「Ｘ年Ｙ月Ｚ日」と「東京」が省略され、「天気は晴れ時々曇り、降水確率は２０％、最高気温は２５度、最低気温は１５度です」となる。ユーザＨは、通常であれば、属性内容Ｅ１を音声Ｖ１に含めているので、属性内容Ｅ１が省略されても、内容を把握することができる。言い換えれば、第２出力文章生成部６２は、音声Ｖ１に含まれる情報を、省略する情報、すなわち第２出力文章に含めない情報として、選択してよい。すなわち、第２出力文章生成部６２は、ユーザＨが発する音声Ｖ１に含まれる情報を、省略される情報の一部とする。また、例え属性内容Ｅ１が音声Ｖ１に含まれていなくても、属性内容Ｅ１は、記憶部２０に設定データとして記憶されている場合がある。この場合、ユーザＨは、属性内容Ｅ１が設定データ、すなわちデフォルトのデータとして設定されていることを認識しているため、属性内容Ｅ１が含まれなくても、内容を理解することができる。なお、属性内容Ｅ１が複数ある場合、第２出力文章生成部６２は、全ての属性内容Ｅ１を省略してもよいし、一部の属性内容Ｅ１だけを省略してもよい。
【００４３】
また、文章用情報を含めない、すなわち文章用情報を省略する場合、例えば、第２出力文章は、文章用情報である単語が省略され、「Ｘ年Ｙ月Ｚ日の東京の天気は晴れ時々曇り、降水確率は２０％、最高気温は２５度、最低気温は１５度」となる。すなわち、例えば日本語の場合は、例えば文章用情報として丁寧語が省略され、例えば英語の場合は、冠詞が省略される。
【００４４】
一方、取得情報Ａは、ユーザＨが尋ねたい情報であるため、意図情報Ｉと属性内容Ｅ１と文章用情報とに比べ、省略しないことが望ましい。特に、取得内容情報Ａ１は、ユーザＨに提供するデータそのものであるため、省略しないことが望ましい。すなわち、第２出力文章生成部６２は、取得内容情報Ａ１以外の情報から省略する情報を選択して、第２出力文章を生成することが望ましい。さらに言えば、第２出力文章生成部６２は、取得内容情報Ａ１を省略する情報として選択せず、取得内容情報Ａ１を第２出力文章に含ませることが望ましい。このように、第２出力文章に含めない情報を、取得内容情報Ａ１以外の情報から選択し、第２出力文章に含めない情報として取得内容情報Ａ１を選択しないことで、ユーザＨに内容を把握させつつ、文章量を適切に少なくすることができる。
【００４５】
ただし、第２出力文章生成部６２は、取得情報Ａを省略することもあり、その場合について以下で説明する。例えば、第２出力文章生成部６２は、取得情報Ａのうちの取得パラメータＡ０を、省略する情報として選択してもよい。この場合、第２出力文章は、取得パラメータＡ０である「天気」、「降水確率」、「気温（最高気温、最低気温）」、「降水確率」が省略され、「「Ｘ年Ｙ月Ｚ日の東京は晴れ時々曇り、２０％、１５度から２５度です」」となる。取得パラメータＡ０は、ユーザＨが尋ねたい取得内容情報Ａ１に紐づいた情報であるため、取得内容情報Ａ１が通知されれば、ユーザＨは、どの取得パラメータＡ０に対する取得内容情報Ａ１であるかを認識することができる。
【００４６】
より具体的には、第２出力文章生成部６２は、取得内容情報Ａ１が単位を含んだ数値情報である場合、その取得内容情報Ａ１に紐づいた取得パラメータＡ０、すなわち数値情報の種類を示す情報を、省略する情報として選択する。取得内容情報Ａ１が単位を含んでいる場合、ユーザＨは、その単位から、取得パラメータＡ０を認識することができる。
【００４７】
また、第２出力文章生成部６２は、取得内容情報Ａ１が数値範囲を示す情報である場合、その取得内容情報Ａ１に紐づいた取得パラメータＡ０を、省略する情報として選択する。この場合の省略される取得パラメータＡ０は、数値範囲のうちの最大値であることを示す情報（この例では「最高気温」）と数値範囲のうちの最小値であることを示す情報（こ

の例では「最低気温」）とである。
【００４８】
また、第２出力文章生成部６２は、取得内容情報Ａ１に開始と終了とを示す情報である場合、その取得内容情報Ａ１に紐づいた取得パラメータＡ０を、省略する情報として選択する。開始と終了とを示す情報とは、例えば、乗車駅が東京駅で、到着駅が横浜駅である場合の情報である。この場合、東京駅が開始を示す情報で、横浜駅が終了を示す情報である。この場合、例えば第１出力文章は、「乗車駅は東京駅で、降車駅は横浜駅です」となるが、第２出力文章は、取得パラメータＡ０である「乗車駅」と「降車駅」とが省略され、「東京駅から横浜駅です」となる。すなわち、この場合、取得パラメータＡ０である「乗車駅」が、開始に該当する取得内容情報Ａ１が開始であることを示す情報であり、取得パラメータＡ０である「降車駅」が、終了に該当する取得内容情報Ａ１が終了であることを示す情報であるといえる。以上のような場合でも、第２出力文章は、「ＡからＢまで」という取得内容情報Ａ１は含まれているので、取得パラメータＡ０が省略されても、ユーザＨが内容を把握することができる。
【００４９】
また、第２出力文章生成部６２は、複数の意図情報Ｉや、複数の取得内容情報Ａ１が取得された場合、一部の取得内容情報Ａ１を省略する情報として選択してもよい。例えば、第２出力文章生成部６２は、複数の意図情報Ｉが抽出された場合、いずれかの意図情報Ｉに属する取得内容情報Ａ１を、省略する。例えば、第２出力文章生成部６２は、文章とした場合に文章量が多くなる意図情報Ｉに属する取得内容情報Ａ１を、優先度の低い情報として、省略する。例えば、音声Ｖ１が「おはよう」である場合に、意図情報Ｉとして天気とニュースとを抽出するように設定されていたケースを説明する。このケースでは、第２出力文章生成部６２は、天気に関する出力文章よりもニュースに関する出力文章が長くなる場合、ニュースに関する取得内容情報Ａ１を省略し、天気に関する取得内容情報Ａ１を残す。
【００５０】
また、第２出力文章生成部６２は、１つの意図情報Ｉに対して複数の取得内容情報Ａ１が取得された場合にも、いずれかの取得内容情報Ａ１を省略してもよい。例えば、第２出力文章生成部６２は、意図情報Ｉが渋滞の情報を通知するものである場合、取得内容情報Ａ１は、場所ごとの渋滞情報となる。この場合、第２出力文章生成部６２は、例えば現在位置から遠い場所の渋滞情報や、渋滞の規模が小さい場所の渋滞情報など、重要度の低い渋滞情報（取得内容情報Ａ１）を、優先度の低い情報として、省略する。
【００５１】
このように、第２出力文章生成部６２は、複数の取得内容情報Ａ１があり、複数の取得内容情報Ａ１のうちの一部を省略する場合は、優先度の低い取得内容情報Ａ１を、省略する情報として選択する。第２出力文章生成部６２は、優先度を予め設定して記憶部２０に記憶させておき、その優先度に基づき、優先度の低い取得内容情報Ａ１を選択する。すなわち、例えば、文章量が少ないことを優先度が高いものとしたり、現在位置から近い渋滞情報を、優先度が高いものとしたりして、記憶させておく。
【００５２】
第２出力文章生成部６２は、以上のように、意図情報Ｉと属性内容Ｅ１と取得情報Ａと文章用情報との少なくともいずれかを省略して、第２出力文章を生成する。すなわち、意図情報Ｉと属性内容Ｅ１と取得情報Ａと文章用情報とは、省略可能な情報といえる。第２出力文章生成部６２は、以上で説明した省略可能な情報を、全て省略する情報として選択してもよいし、省略可能な情報のうちの一部のみを省略してもよい。例えば、音声内容制御装置１は、省略可能な情報のうち、実際に省略する情報を、予め設定しておく。例えば、意図情報Ｉと属性内容Ｅ１とを省略する情報として設定された場合、第２出力文章生成部６２は、第２出力文章を生成する際には、意図情報Ｉと属性内容Ｅ１との種類を問わず、常に意図情報Ｉと属性内容Ｅ１とを省略する。また、音声内容制御装置１は、実際に省略する情報の種類を示すテーブルを、記憶部２０に記憶させていてもよい。この場合、例

えば、省略される意図情報Ｉ（例えば天気など）と、省略されない情報（例えば時刻など）とが区分されるため、情報の種類に応じて、省略する情報を適切に選択することができる。

【００５３】

音声内容生成部３６は、以上のように、出力文章を生成する。以上の説明は、意図情報Ｉが情報を通知する旨の内容である場合の出力文章の生成方法である。意図情報Ｉが機器を制御する旨の内容である場合も、音声内容生成部３６は、同様に、第１出力文章よりも情報が省略されるように、第２出力文章を生成する。この場合、音声内容生成部３６は、処理部５２による制御（例えば照明の電源をオンにする制御）を実行した後に、その制御の実行状況を説明する文章を、出力文章として生成する。より詳しくは、音声内容生成部３６は、第１音声Ｖ１Ａであると分類された場合に、第１出力文章として、「はい、処理を受け付けました」というテキストデータを生成する。すなわち、第１出力文章は、「はい」などの返答の情報と、「処理を受け付けました」などの、返答の情報に後続する文の情報とを含む。一方、音声内容生成部３６は、第２音声Ｖ１Ｂであると分類された場合に、第２出力文章として、「はい」というテキストデータを生成する。すなわち、この場合、第２出力文章は、返答の情報を含み、返答の情報に後続する文の情報が省略される。従って、この場合でも、音声内容生成部３６は、第２音声Ｖ１Ｂであると分類された場合には、第１出力文章が生成された場合に含まれる一部の情報を省略しているといえる。

【００５４】

図２に戻り、出力制御部４０は、音声内容生成部３６が生成した出力文章、すなわち第１出力文章又は第２出力文章を取得する。出力制御部４０は、このテキストデータとしての出力文章を音声データに変換し、その音声データを、音声Ｖ２として、音声出力部１２に出力させる。出力制御部４０は、音量を調整するスイッチで同じ音量に設定されていた場合、第１出力文章を読む音声Ｖ２の音量と、第２出力文章を読む音声Ｖ２の音量とを、同じ音量とする。すなわち、出力制御部４０は、第１出力文章と第２出力文章とで、音声Ｖ２の音量を変えない。ただし、出力制御部４０は、第１出力文章と第２出力文章とで、音声Ｖ２の音量を変えてもよい。また、出力制御部４０は、音声Ｖ２を出力する際や、処理部５２による処理が終了した際や、音声Ｖ１を検出した際などに、点灯部１４を制御して点灯させてもよい。

【００５５】

制御部１６は、以上のような構成となっている。以下、制御部１６による出力文章の出力処理のフローを、フローチャートに基づき説明する。図５は、第１実施形態に係る出力文章の出力処理のフローを示すフローチャートである。図５の示すように、制御部１６は、音声取得部３０により、入力音声、すなわち音声Ｖ１の音声データを取得する（ステップＳ１０）。制御部１６は、音声解析部３２により、音声取得部３０が取得した音声Ｖ１の音声データを解析して、テキストデータを生成する（ステップＳ１２）。そして、制御部１６は、意図解析部５０により、テキストデータから、意図情報Ｉと属性情報Ｅとを抽出する（ステップＳ１４）。意図情報Ｉと属性情報Ｅとを抽出したら、制御部１６は、処理部５２により、意図情報Ｉに即した処理を実行するか、意図情報Ｉに則した取得情報を取得するかの、いずれかを行う（ステップＳ１６）。すなわち、処理部５２は、意図情報Ｉが機器を制御する旨の内容である場合、意図情報Ｉと属性情報Ｅとで規定された内容の処理（例えば照明の電源をオンにする）を実行する。一方、処理部５２は、意図情報Ｉが情報を通知する旨の内容である場合、意図情報Ｉと属性情報Ｅとに基づき、取得情報Ａを取得する。具体的には、処理部５２は、意図情報Ｉと属性情報Ｅとに基づき、取得パラメータＡ０を抽出し、取得パラメータＡ０毎に、取得内容情報Ａ１を取得する。また、ステップＳ１０で入力音声、すなわち音声Ｖ１を取得したら、制御部１６は、音声分類部３８により、音声Ｖ１を第１音声Ｖ１Ａ、第２音声Ｖ１Ｂのいずれかに分類する（ステップＳ１８）。

【００５６】

制御部１６は、音声Ｖ１が第１音声Ｖ１Ａであるかを判定し（ステップＳ２０）、第１

音声Ｖ１Ａである場合（ステップＳ２０；Ｙｅｓ）、第１出力文章生成部６０により、第１出力文章を生成する（ステップＳ２２）。一方、制御部１６は、第１音声Ｖ１Ａでない場合（ステップＳ２０；Ｎｏ）、すなわち第２音声Ｖ１Ｂである場合、第２出力文章生成部６２により、第２出力文章を生成する（ステップＳ２４）。制御部１６は、出力文章、すなわち第１出力文章又は第２出力文章を生成したら、出力制御部４０により、その出力文章を、音声出力部１２により音声Ｖ２として出力させ（ステップＳ２６）、処理を終了する。すなわち、出力制御部４０は、第１出力文章が生成されたら、その第１出力文章を音声データに変換して、音声出力部１２により音声Ｖ２として出力させる。そして、出力制御部４０は、第２出力文章が生成された場合には、その第２出力文章を音声データに変換して、音声出力部１２により音声Ｖ２として出力させる。

【００５７】

本実施形態に係る音声内容制御装置１は、音声分類部３８と、処理実行部３４と、音声内容生成部３６とを有する。音声分類部３８は、音声取得部３０が取得したユーザＨが発する音声Ｖ１を解析して、音声Ｖ１を、第１音声Ｖ１Ａと第２音声Ｖ１Ｂとのいずれかに分類する。処理実行部３４は、音声取得部３０が取得した音声Ｖ１を解析して、ユーザが要求する処理を実行する。音声内容生成部３６は、処理実行部３４が実行した処理内容に基づき、ユーザＨに向けて出力する音声Ｖ２用の文章データ（テキストデータ）である出力文章を生成する。音声内容生成部３６は、第１音声Ｖ１Ａと分類された場合に、出力文章として第１出力文章を生成する。音声内容生成部３６は、第２音声Ｖ１Ｂと分類された場合に、第１出力文章と比べて情報の一部が省略される第２出力文章を、出力文章として生成する。さらに本実施形態では、音声内容生成部３６は、第２音声Ｖ１Ｂと分類された場合に、第１出力文章と比べて情報の一部が省略されるように文章を生成することで、第１出力文章よりも文章量が少ない第２出力文章を、出力文章として生成する。

【００５８】

出力文章の音声データとして出力される音声Ｖ２は、ユーザＨに向かって出力されるが、上述のように、音声内容制御装置１の周囲にいるユーザＨ以外の人にも届く場合がある。ユーザＨは、周りの人に音声Ｖ２による影響を与えたくないと判断した場合は、ささやき声で音声Ｖ１を発したりするなど、音声Ｖ２による影響を与えてもよい判断した場合に対し、同じ内容を伝える場合であっても、音声Ｖ１を変化させる。音声内容制御装置１は、ユーザの音声Ｖ１を解析して、第１音声Ｖ１Ａと分類されるような音声Ｖ１が検出された場合には、ユーザＨ以外の人への影響を考慮しなくてもよいと判断して、音声Ｖ２用に、第１出力文章を生成する。一方、音声内容制御装置１は、第２音声Ｖ１Ｂと分類されるような音声Ｖ１が検出された場合には、ユーザＨ以外の人への影響を考慮する必要があると判断して、音声Ｖ２用に、第１出力文章より文章量が少ない第２出力文章を生成する。これにより、音声内容制御装置１は、ユーザＨ以外の人への影響を考慮する必要がある場合に、音声Ｖ２として発される文章量を少なくすることができ、音声Ｖ２が出力される長さを短くして、ユーザＨ以外の人への影響を抑制する。さらに、音声内容制御装置１は、情報の一部を省略して第２出力文章を生成するため、省略する情報を調整することで、ユーザＨが、音声Ｖ２の内容、すなわち第２出力文章の内容を、適切に理解可能とすることができる。

【００５９】

また、処理実行部３４は、音声Ｖ１に基づき、ユーザＨの意図を示す意図情報Ｉを抽出する意図解析部５０と、意図情報Ｉに基づきユーザＨに通知する取得内容情報Ａ１を取得する処理部５２と、を有する。音声内容生成部３６は、取得内容情報Ａ１を含む文章データを、出力文章とする。この音声内容制御装置１は、意図情報Ｉに基づき取得された取得内容情報Ａ１を、出力文章に含ませるため、ユーザＨが望む情報を、適切にユーザＨに伝えることができる。

【００６０】

また、音声内容生成部３６は、第２音声Ｖ１Ｂと分類された場合に、取得内容情報Ａ１以外の情報から省略する情報を選択して、第２出力文章を生成する。取得内容情報Ａ１は

、ユーザＨが要求している情報そのものを指す場合がある。音声内容生成部３６は、取得内容情報Ａ１以外から省略する情報を選択するため、取得内容情報Ａ１を省略することなく情報を通知することができ、ユーザＨに、音声Ｖ２の内容を適切に理解させることができる。

【００６１】

また、音声内容生成部３６は、取得内容情報Ａ１を省略する情報として選択せず、取得内容情報Ａ１を第２出力文章に含ませる。音声内容生成部３６は、取得内容情報Ａ１を省略することなく情報を通知することができ、ユーザＨに、音声Ｖ２の内容を適切に理解させることができる。

【００６２】

また、音声内容生成部３６は、予め設定したテーブルから、省略する情報を選択する。音声内容制御装置１は、記憶部２０に記憶させたテーブルから省略する情報を選択するため、省略する情報を適切に選択して、ユーザＨに、音声Ｖ２の内容を適切に理解させることができる。

【００６３】

また、音声内容生成部３６は、ユーザＨが発する音声Ｖ１に含まれる情報を、省略する情報として選択する。ユーザＨが発する音声Ｖ１に含まれる情報は、省略したとしても、ユーザＨは意味を理解しやすい。音声内容制御装置１は、そのような音声Ｖ１に含まれる情報を省略することで、音声Ｖ２の内容を適切に理解させつつ、ユーザＨ以外の人への影響を抑制することができる。

【００６４】

また、音声内容生成部３６は、取得内容情報Ａ１に単位を含む数値情報が含まれる場合、数値情報の種類を示す情報（取得パラメータＡ０）を、省略する情報として選択する。音声内容制御装置１は、単位が含まれる取得内容情報Ａ１に紐づいた取得パラメータＡ０を省略することで、音声Ｖ２の内容を適切に理解させつつ、ユーザＨ以外の人への影響を抑制することができる。

【００６５】

音声内容生成部３６は、処理実行部３４から複数種類の取得内容情報Ａ１を取得した場合、優先度の低い取得内容情報Ａ１を、省略する情報として選択する。音声内容制御装置１は、優先度の低い取得内容情報Ａ１を省略することで、音声Ｖ２の内容を適切に理解させつつ、ユーザＨ以外の人への影響を抑制することができる。

【００６６】

音声内容生成部３６は、複数種類の取得内容情報Ａ１のうち、出力文章とした場合に文章量が多くなる前記取得内容情報Ａ１を、省略する情報として選択する。音声内容制御装置１は、文章量が多くなる取得内容情報Ａ１を省略することで、ユーザＨ以外の人への影響を抑制することができる。

【００６７】

音声内容生成部３６は、優先度を予め定めておき、予め定めた優先度に基づき、省略する情報を選択する。音声内容制御装置１は、予め優先度を定めることで、音声Ｖ２の内容を適切に理解させつつ、ユーザＨ以外の人への影響を抑制することができる。

【００６８】

音声分類部３８は、ユーザが発する音声Ｖ１がささやき声である場合に、音声Ｖ１を第２音声Ｖ２Ｂとして分類する。この音声内容制御装置１は、ささやき声を検出して、その場合に第２出力文章を生成ことで、ユーザＨ以外の人への影響を及ぼす状況であるかを適切に検出して、その影響を適切に抑制することができる。

【００６９】

図６は、出力文章の出力処理のフローの他の例を示すフローチャートである。なお、本実施形態の音声内容生成部３６は、第２音声Ｖ１Ｂである場合、第１出力文章を生成せず、第２出力文章を生成していた。ただし、音声内容生成部３６は、第１出力文章した後、生成した第１出力文章の情報の一部を省略することで、第２出力文章を生成してもよい。

すなわち、この場合、図６に示すように、音声内容生成部３６は、ステップＳ１６で処理部５２の処理が行われた後に、音声Ｖ１の分類結果を参照せず、すなわち分類結果を問わずに、第１出力文章を生成する（ステップＳ１７）。音声内容生成部３６は、第１出力文章を生成した後、第１音声Ｖ１Ａであると判断された場合（ステップＳ２０Ａ；Ｙｅｓ）、ステップＳ２６に移動して、その第１出力文章を出力文章とする。一方、音声内容生成部３６は、第１出力文章を生成した後、第１音声Ｖ１Ａでない（ステップＳ２０Ａ；Ｎｏ）、すなわち第２音声Ｖ１Ｂであると判断された場合、生成した第１出力文章の情報の一部を省略することで、第２出力文章を生成し（ステップＳ２４Ａ）、第２出力文章を出力文章とする。この場合の第２出力文章での情報の省略方法は、既述の方法でよい。

【００７０】

（第２実施形態）

次に、第２実施形態について説明する。第１実施形態に係る音声内容制御装置１は、音声検出部１０及び音声出力部１２を有しているが、第２実施形態に係る音声内容制御装置１Ａは、音声検出部１０及び音声出力部１２を有していない。第２実施形態において第１実施形態と構成が共通する箇所は、説明を省略する。

【００７１】

図７は、第２実施形態に係る音声処理システムの模式的なブロック図である。図７に示すように、第２実施形態に係る音声処理システム１００は、音声内容制御装置１Ａと、応答装置２Ａとを有する。応答装置２Ａは、例えば、スマートスピーカであり、音声検出部１０と、音声出力部１２と、点灯部１４と、通信部１５Ａとを有する。音声内容制御装置１Ａは、応答装置２Ａから離れた箇所にある装置（サーバ）であり、制御部１６と、通信部１８Ａと、記憶部２０とを有する。音声内容制御装置１Ａと応答装置２Ａとは、無線通信で接続されているが、有線通信で接続されていてもよい。

【００７２】

音声内容制御装置１Ａは、音声検出部１０が検出した音声Ｖ１を、通信部１５Ａと通信部１８Ａとを介した情報通信により、取得する。そして、音声内容制御装置１Ａは、第１実施形態と同様の処理を実行して出力文章を生成し、その出力文章を、応答装置２Ａに出力する。応答装置２Ａは、音声出力部１２で、出力文章を音声データに変換して、音声Ｖ２として出力する。ただし、音声内容制御装置１Ａが、出力文章の音声データを生成し、応答装置２Ａに送信してもよい。この場合、音声出力部１２は、取得した音声データを、音声Ｖ２として出力する。このように、音声処理システム１００は、音声内容制御装置１Ａと、ユーザＨが発する音声Ｖ１を検出する音声検出部１０と、音声内容生成部３６が生成した出力文章を、音声Ｖ２として出力する音声出力部１２と、を有する。このように、音声内容制御装置１Ａは、応答装置２Ａと別体であっても、第１実施形態と同様の効果を奏する。

【００７３】

以上、本発明の実施形態を説明したが、これら実施形態の内容により実施形態が限定されるものではない。また、前述した構成要素には、当業者が容易に想定できるもの、実質的に同一のもの、いわゆる均等の範囲のものが含まれる。さらに、前述した構成要素は適宜組み合わせることが可能である。さらに、前述した実施形態の要旨を逸脱しない範囲で構成要素の種々の省略、置換又は変更を行うことができる。

【符号の説明】

【００７４】

１　音声内容制御装置
１０　音声検出部
１２　音声出力部
１６　制御部
３０　音声取得部
３２　音声解析部
３４　処理実行部

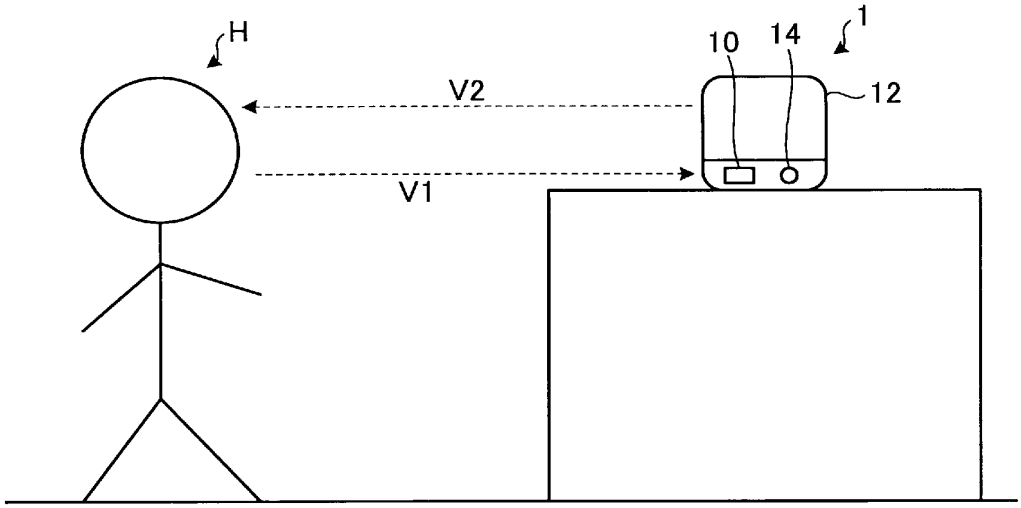
３６　音声内容生成部
３８　音声分類部
４０　出力制御部
５０　意図解析部
５２　処理部
Ａ　取得情報
Ｅ　属性情報
Ｈ　ユーザ
Ｉ　意図情報
Ｖ１、Ｖ２　音声
Ｖ１Ａ　第１音声
Ｖ１Ｂ　第２音声

【書類名】特許請求の範囲
【請求項１】
音声取得部が取得したユーザが発する音声を解析して、前記音声を、第１音声と第２音声とのいずれかに分類する音声分類部と、
前記音声取得部が取得した音声を解析して、前記ユーザが要求する処理を実行する処理実行部と、
前記処理実行部が実行した処理内容に基づき、前記ユーザに向けて出力する音声用の文章データである出力文章を生成する音声内容生成部と、を有し、
前記音声内容生成部は、
前記第１音声と分類された場合に、前記出力文章として第１出力文章を生成し、
前記第２音声と分類された場合に、前記第１出力文章と比べて情報が省略される第２出力文章を、前記出力文章として生成する、音声内容制御装置。
【請求項２】
前記処理実行部は、
前記音声取得部が取得した音声に基づき、前記ユーザの意図を示す意図情報を抽出する意図解析部と、
前記意図情報に基づき、前記ユーザに通知する取得内容情報を取得する処理部と、を有し、
前記音声内容生成部は、前記取得内容情報を含む文章データを、前記出力文章とする、請求項１に記載の音声内容制御装置。
【請求項３】
前記音声内容生成部は、前記ユーザが発する音声に含まれる情報を省略される情報の一部とする、請求項１または請求項２に記載の音声内容制御装置。
【請求項４】
前記音声分類部は、前記ユーザが発する音声がささやき声である場合に、前記第２音声として分類する、請求項１から請求項３のいずれか１項に記載の音声内容制御装置。
【請求項５】
ユーザが発する音声を取得する音声取得ステップと、
前記音声取得ステップで取得した音声を解析して、前記音声を、第１音声と第２音声とのいずれかに分類する音声分類ステップと、
前記音声取得ステップで取得した音声を解析して、前記ユーザが意図した処理を実行する処理実行ステップと、
前記処理実行ステップで実行した処理内容に基づき、前記ユーザに向けて出力する音声用の文章データである出力文章を生成する音声内容生成ステップと、を有し、
前記音声内容生成ステップにおいて、
前記第１音声と分類された場合に、前記出力文章として第１出力文章を生成し、
前記第２音声と分類された場合に、前記第１出力文章に含まれる情報の一部が省略される第２出力文章を生成する、音声内容制御方法。
【請求項６】
ユーザが発する音声を取得する音声取得ステップと、
前記音声取得ステップで取得した音声を解析して、前記音声を、第１音声と第２音声とのいずれかに分類する音声分類ステップと、
前記音声取得ステップで取得した音声を解析して、前記ユーザが意図した処理を実行する処理実行ステップと、
前記処理実行ステップで実行した処理内容に基づき、前記ユーザに向けて出力する音声用の文章データである出力文章を生成する音声内容生成ステップと、
をコンピュータに実行させ、
前記音声内容生成ステップにおいて、
前記第１音声と分類された場合に、前記出力文章として第１出力文章を生成し、
前記第２音声と分類された場合に、前記第１出力文章に含まれる情報の一部が省略され

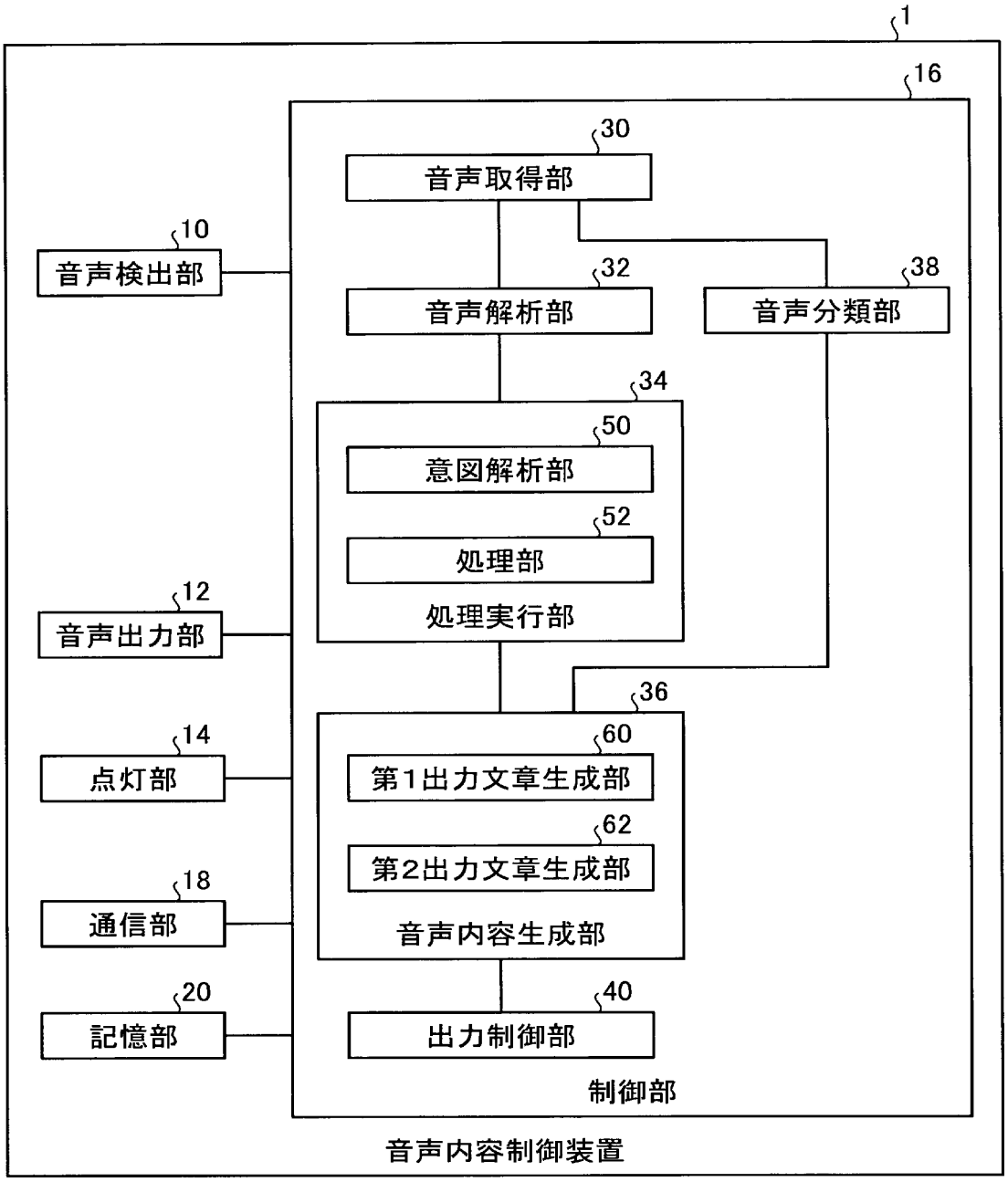
る第２出力文章を生成する、音声内容制御プログラム。

【書類名】要約書
【要約】
【課題】ユーザ以外への影響を抑えつつ、ユーザに出力する音声の内容を適切に理解可能とする。
【解決手段】音声内容制御装置１は、ユーザが発する音声を解析して、音声を、第１音声と第２音声とのいずれかに分類する音声分類部３８と、音声を解析して、ユーザが要求する処理を実行する処理実行部３４と、処理実行部３４が実行した処理内容に基づき、ユーザに向けて出力する音声用の文章データである出力文章を生成する音声内容生成部３６と、を有する。音声内容生成部３６は、第１音声と分類された場合に、出力文章として第１出力文章を生成し、第２音声と分類された場合に、第１出力文章と比べて情報が省略される第２出力文章を、出力文章として生成する。
【選択図】図２

【書類名】図面
【図１】



【図２】


1
16
30
音声取得部
10
音声検出部
32
音声解析部
38
音声分類部
34
50
意図解析部
52
処理部
処理実行部
12
音声出力部
36
60
第1出力文章生成部
14
点灯部
62
第2出力文章生成部
18
通信部
音声内容生成部
20
記憶部
40
出力制御部
制御部
音声内容制御装置

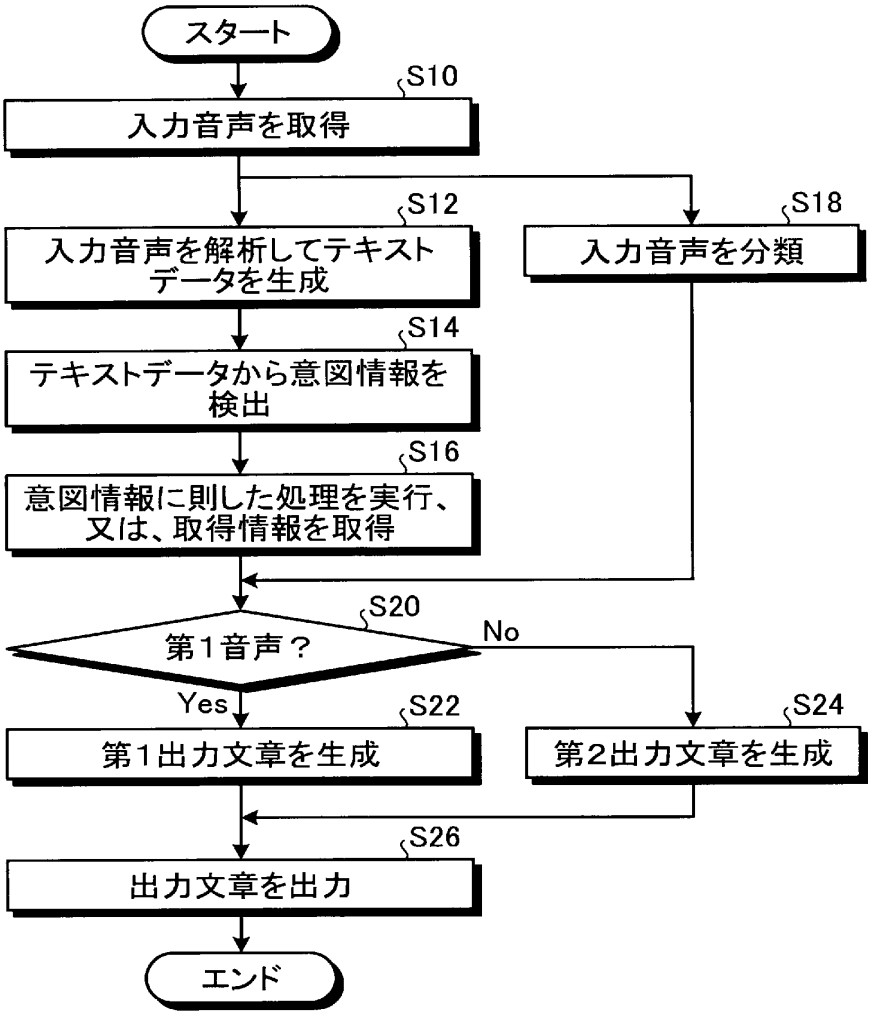
【図３】

意図情報I	属性パラメータE0/ 属性内容E1	属性パラメータE0/ 属性内容E1
天気	日時	場所
	X年Y月Z日	東京

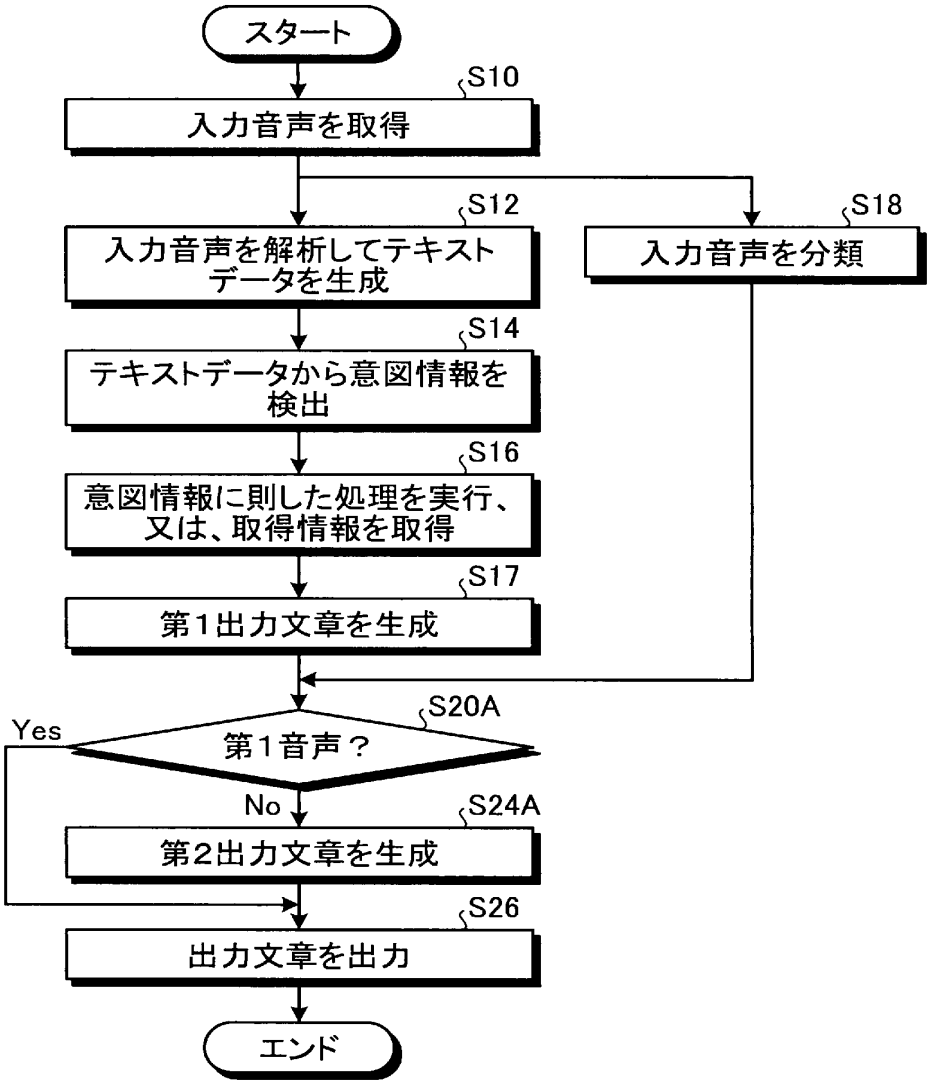
【図４】

意図情報I	取得パラメータA0/ 取得内容情報A1	取得パラメータA0/ 取得内容情報A1	取得パラメータA0/ 取得内容情報A1
天気	天気	気温	降水確率
	晴れ時々曇り	最高気温:25度 最低気温:15度	20%

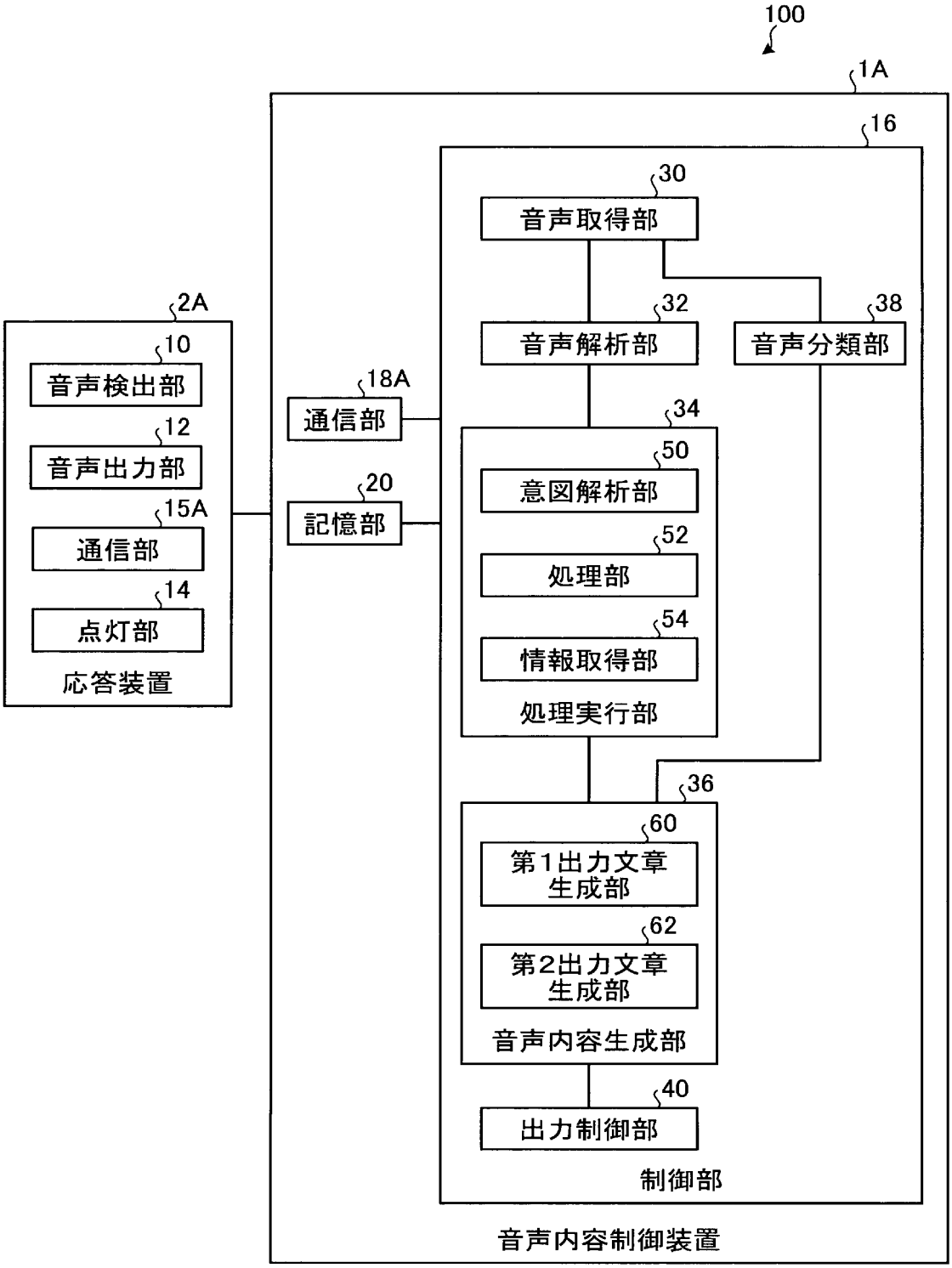
【図５】


スタート
S10
入力音声を取得
S12
入力音声を解析してテキストデータを生成
S18
入力音声を分類
S14
テキストデータから意図情報を検出
S16
意図情報に則した処理を実行、又は、取得情報を取得
S20
第１音声？
No
Yes
S22
第１出力文章を生成
S24
第２出力文章を生成
S26
出力文章を出力
エンド

【図６】


スタート
S10
入力音声を取得
S12
入力音声を解析してテキストデータを生成
S18
入力音声を分類
S14
テキストデータから意図情報を検出
S16
意図情報に則した処理を実行、又は、取得情報を取得
S17
第1出力文章を生成
S20A
第1音声？
Yes
No
S24A
第2出力文章を生成
S26
出力文章を出力
エンド

【図７】


100
1A
16
30
音声取得部
32
音声解析部
38
音声分類部
2A
10
音声検出部
12
音声出力部
15A
通信部
14
点灯部
応答装置
18A
通信部
20
記憶部
34
50
意図解析部
52
処理部
54
情報取得部
処理実行部
36
60
第1出力文章生成部
62
第2出力文章生成部
音声内容生成部
40
出力制御部
制御部
音声内容制御装置

出願人履歴

３０８０３６４０２

20110810

名称変更

神奈川県横浜市神奈川区守屋町３丁目１２番地

株式会社ＪＶＣケンウッド

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	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/290,983	03/04/2019	2658	1720	SAJVP171US	6	3

CONFIRMATION NO. 5210

FILING RECEIPT

23623
AMIN, TUROCY & WATSON, LLP
200 Park Avenue
Suite 300
Beachwood, OH 44122

Date Mailed: 03/21/2019

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**

Inventor(s)

Tatsumi Naganuma, Yokohama-shi, JAPAN;

Applicant(s)

JVC KENWOOD Corporation, Yokohama-shi, JAPAN;

Power of Attorney: The patent practitioners associated with Customer Number 23623

Domestic Applications for which benefit is claimed - None.
A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

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.)
JAPAN 2018-039754 03/06/2018 Access Code Provided

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to**

Retrieve Electronic Priority Application(s) (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 03/19/2019

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/290,983**

Projected Publication Date: 09/12/2019

Non-Publication Request: No

Early Publication Request: No
Title

VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM

Preliminary Class

704

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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 (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

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.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

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 U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop

technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT5401928

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
TATSUMI NAGANUMA	01/25/2019

RECEIVING PARTY DATA

Name:	JVC KENWOOD CORPORATION
Street Address:	3-12, MORIYACHO, KANAGAWA-KU
City:	YOKOHAMA-SHI, KANAGAWA
State/Country:	JAPAN
Postal Code:	221-0022

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16290983

CORRESPONDENCE DATA

Fax Number: (216)696-8731

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

Phone: 216-696-8730
Email: epas@thepatentattorneys.com
Correspondent Name: AMIN, TUROCY & WATSON, LLP
Address Line 1: 200 PARK AVENUE
Address Line 2: SUITE 300
Address Line 4: BEACHWOOD, OHIO 44122

ATTORNEY DOCKET NUMBER:	SAJVP171US
NAME OF SUBMITTER:	GREGORY TUROCY
SIGNATURE:	/Greg Turocy/
DATE SIGNED:	03/04/2019
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 2
source=DEC171#page1.tif
source=DEC171#page2.tif

COMBINED DECLARATION AND ASSIGNMENT FOR U.S. PATENT APPLICATION USING AN APPLICATION DATA SHEET

DECLARATION

As a below named inventor, I hereby declare that:

I believe I am the original inventor or an original joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Title: VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM

the application of which is attached hereto unless the following is checked

____ was filed on _____ as United States application Serial No. _____, or as described and claimed in PCT International Application No. _____filed on _____ and amended on _____ (if any).

The above-identified application was made or authorized to be made by me.

Please direct all communications to the following address:

the address associated with Customer Number **23623**, and direct telephone calls to

Gregory Turocy of Amin, Turocy & Watson, LLP at 216-696-8730.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. Section 1001 by fine or imprisonment of not more than five (5) years, or both.

ASSIGNMENT

For good and valuable consideration received of the hereinafter named assignee, receipt of which is hereby acknowledged, the undersigned

Name: Tatsumi NAGANUMA **Residence:** Yokohama-shi, Kanagawa, JAPAN

hereby sell and assign to JVC KENWOOD Corporation, a corporation of Japan, having a business address at 3-12, Moriyacho, Kanagawa-ku, Yokohama-shi, Kanagawa 221-0022 Japan, its successors and assigns, the entire right, title and interest, so far as concerns the United States and the Territories and Possessions thereof and all foreign countries, in and to the inventions titled above for which application for United States Letters Patent is executed by the undersigned on the date below and is being filed concurrently herewith, said application for United States Letters Patent, any and all other applications for Letters Patent on said inventions in countries foreign to the United States, including all divisional, renewal, substitute, continuation, Convention applications, reissue, reexamination, supplemental examination, inter parties review, post grant review, or other procedures thereof for the full term or terms for which the same may be granted based in whole or in part upon said inventions or upon said applications, and any and all Letters Patent and

reissues and extensions of Letters Patent granted for said inventions or upon said applications, and every priority right that is or may be predicated upon or arise from said inventions, said applications and said Letters Patent; said assignee being hereby authorized to file patent applications in any or all countries on any or all said inventions in the name of the undersigned or in the name of said assignee or otherwise as said assignee may deem advisable, under the International Convention or otherwise; the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments being hereby authorized to issue or transfer all said Letters Patent to said assignee in accordance herewith; this assignment being under covenant, not only that full power to make the same is had by the undersigned, but also that such assigned right is not encumbered by any grant, license, or other right heretofore given, and that the undersigned will do all acts reasonably serving to assure that said inventions, patent applications and Letters Patent shall be held and enjoyed by said assignee as fully and entirely as the same could have been held and enjoyed by the undersigned if this assignment had not been made, and particularly to execute and deliver to said assignee all lawful documents including petitions, specifications, oaths, assignments, invention disclaimers, and lawful affidavits in form and substance which may be requested by said assignee, to furnish said assignee with all facts relating to said inventions or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may be useful for establishing the facts of conception, disclosure and reduction to practice of said inventions, and to testify in any proceedings relating to said inventions, patent applications and Letters Patent.

The undersigned hereby appoint, request, and grant power to the following law firm to insert on this Assignment further identification which may be necessary or desirable in order to comply with the Rules of the U.S. Patent and Trademark Office for recordation of this document, for example, the U.S. Serial No. and filing date.

Amin, Turocy & Watson, LLP, 57th Floor - Key Tower, 127 Public Square, Cleveland, Ohio 44114.

Legal name of inventor: Tatsumi NAGANUMA

Inventor's signature: Tatsumi Naganuma Date: Jan. 25, 2019

PTO/SB/08a (01-10)
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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	
Filing Date	2019-03-04
First Named Inventor	Naganuma
Art Unit	
Examiner Name	
Attorney Docket Number	SAJVP171US

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5852804		1998-12-22	SAKO	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	04-204700	JP		1992-07-27	FUJITSU TEN LIMITED		

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	
	Filing Date	2019-03-04
	First Named Inventor	Naganuma
	Art Unit	
	Examiner Name	
	Attorney Docket Number	SAJVP171US

	1		

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

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

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	
	Filing Date	2019-03-04
	First Named Inventor	Naganuma
	Art Unit	
	Examiner Name	
	Attorney Docket Number	SAJVP171US

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Greg Turocy/	Date (YYYY-MM-DD)	2019-03-04
Name/Print	Gregory Turocy	Registration Number	36952

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 the Freedom of Information Act requires disclosure of these record s.

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 inspections 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:	35296132
Application Number:	16290983
International Application Number:	
Confirmation Number:	5210
Title of Invention:	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM
First Named Inventor/Applicant Name:	Tatsumi Naganuma
Customer Number:	23623
Filer:	Gregory Turocy/Rebecca Veri
Filer Authorized By:	Gregory Turocy
Attorney Docket Number:	SAJVP171US
Receipt Date:	04-MAR-2019
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VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority from Japanese Application No. 2018-039754, filed on March 6, 2018, the contents of which are incorporated by reference herein in its entirety.

FIELD

[0002] The present application relates to a voice-content control device, a voice-content control method, and a non-transitory storage medium.

BACKGROUND

[0003] As disclosed in Japanese Examined Patent Publication No. H07-109560, for example, a voice control device that analyzes detected voice of a user and performs processing according to the user's intention has been proposed. Furthermore, a voice control device, which outputs, via voice, that processing intended by a user has been performed, or outputs, via voice-content of a user's inquiry, has also been proposed.

[0004] However, when a voice processing device that outputs voice is used, the output voice may be heard by a person who is not the user of the voice processing device and is around the voice processing device. For example, if a person around the voice processing device is asleep, the output voice may be an annoyance to the person. In that case, the output voice itself may be decreased in sound volume, but if the output voice is decreased in sound volume too much, the output voice may be hard to be heard by the user himself and the user may be unable to

understand the content of the voice. Therefore, on outputting the voice to the user, influence of the output voice to people other than the user is desired to be suppressed, and content of the output voice to the user is desired to be made adequately understandable.

SUMMARY

[0005] A voice-content control device, a voice-content control method, and a non-transitory storage medium are disclosed.

[0006] According to one aspect, there is provided a voice-content control device, comprising: a voice classifying unit configured to analyze a voice spoken by a user and acquired by a voice acquiring unit to classify the voice as either one of a first voice or a second voice; a process executing unit configured to analyze the voice acquired by the voice acquiring unit to execute processing required by the user; and a voice-content generating unit configured to generate, based on content of the processing executed by the process executing unit, output sentence that is text data for a voice to be output to the user, wherein the voice-content generating unit is further configured to generate a first output sentence as the output sentence when the acquired voice has been classified as the first voice, and generate a second output sentence in which information is omitted as compared to the first output sentence as the output sentence when the acquired voice has been classified as the second voice.

[0007] According to one aspect, there is provided a voice-content control method, comprising: acquiring a voice spoken by a user; analyzing the acquired voice to classify the acquired voice as either one of a first voice and a second voice; analyzing the acquired voice to execute

processing intended by the user; and generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user, wherein at the generating, a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice, and a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice.

[0008] According to one aspect, there is provided a non-transitory storage medium that stores a voice-content control program that causes a computer to execute: acquiring a voice spoken by a user; analyzing the acquired voice to classify the acquired voice as either one of a first voice and a second voice; analyzing the acquired voice to execute processing intended by the user; and generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user, wherein at the generating, a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice, and a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice.

[0009] The above and other objects, features, advantages and technical and industrial significance of this application will be better understood by reading the following detailed description of presently preferred embodiments of the application, when considered in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. 1 is a schematic diagram of a voice-content control device according to a first embodiment;

FIG. 2 is a schematic block diagram of the voice-content control device according to the first embodiment;

FIG. 3 is a table illustrating an example of attribute information;

FIG. 4 is a table illustrating acquisition information;

FIG. 5 is a flow chart illustrating a flow of output processing for output sentence, according to the first embodiment;

FIG. 6 is a flow chart illustrating another example of the flow of the output processing for the output sentence; and

FIG. 7 is a schematic block diagram of a voice processing system according to a second embodiment.

DETAILED DESCRIPTION OF THE PREFERRED EMNODIMENTS

[0011] Embodiments of the present application are explained in detail below with reference to the drawings. The embodiments explained below are not intended to limit the present application.

First Embodiment

[0012] First, a first embodiment is explained. FIG. 1 is a schematic diagram of a voice-content control device according to the first embodiment. As shown in FIG. 1, a voice-content control device 1 according to the first embodiment detects a voice V1 spoken by a user H by a voice detecting unit 10, analyzes the detected voice V1 to perform a predetermined processing, and outputs a voice V2 by a voice output unit 12. Although the voice V2 is output toward the user H, when other people are present around the

voice-content control device 1, the voice V2 can be heard by the people. If, for example, a person around the voice-content control device 1 is asleep, the voice V2 may be an annoyance to the person. The voice-content control device 1 according to this embodiment analyzes the voice V1, and adjusts text to be output as the voice V2, thereby suppressing influence of the voice V2 on people other than the user H and allowing the user H to adequately understand content of the voice V2.

[0013] FIG. 2 is a schematic block diagram of the voice-content control device according to the first embodiment. As shown in FIG. 2, the output-content control device 1 includes the voice detecting unit 10, the voice output unit 12, a lighting unit 14, a controller 16, a communication unit 18, and a storage 20. The voice-content control device 1 is a so-called smart speaker (artificial intelligence (AI) speaker), but is not limited thereto as long as the device has functions described later. The voice-content control device 1 can be, for example, a smart phone, a tablet, and the like.

[0014] The voice detecting unit 10 is a microphone and detects the voice V1 spoken by the user H. The user H speaks the voice V1 toward the voice detecting unit 10 so as to include information for a processing wished to be performed by the voice-content control device 1. The voice detecting unit 10 can be regarded as an input unit that accepts information input externally. The input unit may be provided in addition to the voice detecting unit 10, and, for example, a switch to adjust volume of the voice V2 by operation performed by the user H, and the like may be provided. The voice output unit 12 is a speaker, and outputs sentences (output sentences described later) generated by the controller 16 as the voice V2. The

lighting unit 14 is a light source, such as a light emitting diode (LED), and is turned on by a control of the controller 16. The communication unit 18 is a mechanism to communicate with external servers, such as a Wi-Fi (registered trademark) module and an antenna, and communicates information with an external server not shown under control of the controller 16. The communication unit 18 performs communication of information with the external servers by wireless communication such as Wi-Fi, but the communication of information with the external servers may be performed also by wired communication by cables connected. The storage 20 is a memory that stores information on arithmetic calculation of the controller 16 or programs, and includes, for example, at least one of a random access memory (RAM), a read-only memory (ROM), and an external storage device, such as a flash memory.

[0015] The controller 16 is an arithmetic unit, namely, a central processor (CPU). The controller 16 includes a voice acquiring unit 30, a voice analyzing unit 32, a process executing unit 34, a voice-content generating unit 36, a voice classifying unit 38, and an output controller 40. The voice acquiring unit 30, the voice analyzing unit 32, the process executing unit 34, the voice-content generating unit 36, the voice classifying unit 38, and the output controller 40 perform processes described later by reading software/program stored in the storage 20.

[0016] The voice acquiring unit 30 acquires the voice V1 that is detected by the voice detecting unit 10. The voice analyzing unit 32 performs voice analysis of the voice V1 acquired by the voice acquiring unit 30, to convert the voice V1 into text data. The text data is character data/text data that includes a sentence spoken as the voice V1. The voice analyzing unit 32 detects, for example,

voice waveform comprising amplitude and wave length per time from the voice V1. The voice analyzing unit 32 then replaces the voice waveform per time with characters based on a table in which a relationship between the voice waveforms and the characters is stored, thereby converting the voice V1 into the text data. Note that the converting method can be arbitrarily chosen as long as it enables to convert the voice V1 into the text data.

[0017] Based on the text data generated by the voice analyzing unit 32, the process executing unit 34 detects information on content of processing that is included in the voice V1 and desired to be executed by the voice-content control device 1, and executes the processing. The process executing unit 34 has an intention analyzing unit 50, and an acquisition content information acquiring unit 52.

[0018] The intention analyzing unit 50 acquires the text data that is generated by the voice analyzing unit 32, extracts intention information I based on the text data, and extracts the attribute information E based on the intention information I. The attribute information E is information that is associated with the intention information I, and is information that indicates a condition necessary for acquiring information that the user H wishes to acquire. Namely, the attribute information E is an entity.

[0019] Firstly, processing for extracting the intent information I will be described. The intention information I, that is, an intent, is information that indicates what kind of processing is intended by the user H to be performed on the voice-content control device 1. In other words, the intention information I is information that indicates what kind of processing is required by the user H

to be performed on the voice-content control device 1. The intention analyzing unit 50 extracts the intention information I from the text data by using, for example, a natural language processing. In the present embodiment, the intention analyzing unit 50 extracts the intention information I from the text data based on multiple pieces of training data stored in the storage 20. The training data herein is data in which the intention information I has been assigned to the text data in advance. That is, the intention analyzing unit 50 extracts the training data that is similar to the text data generated by the voice analyzing unit 32, and regards the intention information I of the extracted training data as the intention information I of the text data generated by the voice analyzing unit 32. Note that the training data is not necessarily required to be stored in the storage 20, and the intention analyzing unit 50 can search for the training data in the external server by controlling the communication unit 18. As long as the intention analyzing unit 50 extracts the intention information I from text data, the extracting method of the intention information I can be arbitrarily chosen. For example, the intention analyzing unit 50 can read a relationship table of keywords and the intention information I stored in the storage 20, and can extract the intention information I that is associated with the keyword when the keyword in the relationship table is included in the text data.

[0020] For example, if the text data corresponds to text "How's the weather today?", by performing the above described analysis, the intention analyzing unit 50 recognizes that processing of notifying the user H of weather information is information on the processing required by the user H, that is, the intention information

I. Furthermore, if, for example, the text data corresponds to text "Turn on the light.", by performing the above described analysis, the intention analyzing unit 50 recognizes that processing of turning power of the light on is information on the processing required by the user H, that is, the intention information I. As described above, the intention information I is classified into information for notification of the required information, and information for control of devices as being required.

[0021] The extracting method of the intention information I using text data can be arbitrarily chosen, not limited thereto. For example, the output-content control device 1 can be configured to store a relationship table of keywords and the intention information I in the storage 20, and to detect the intention information I associated with the keyword when the keyword is included in text data of the voice V1 spoken by the user H. As an example of this case, a keyword "*konnichiwa*" may be associated with weather information and news. In this case, when the user H speaks the voice V1 "*konnichiwa*", the intention analyzing unit 50 detects the weather information and the news as the intention information I.

[0022] Described next is the attribute information E. FIG. 3 is a table illustrating an example of the attribute information. The attribute information E, that is, the entity, is a condition needed upon execution of the processing, which is required by the user H and is extracted as the intention information I, that is, a parameter. For example, if the intention information I is weather information, the attribute information E includes information on a location indicating where the weather information is on, and information on a date indicating when the weather information is for. Furthermore, as

illustrated in FIG. 3, the attribute information E includes an attribute parameter E0 and attribute content E1. The attribute parameter E0 is information indicating the type of parameter, that is, the kind of condition, and the attribute content E1 indicates content of the attribute parameter E0. That is, if the attribute information E is information on a location, the attribute parameter E0 is information indicating that the condition is the location, and the attribute content E1 is information indicating that the location is Tokyo. Moreover, if the attribute information E is information on a date, the attribute parameter E0 is information indicating that the condition is the date, and the attribute content E1 is information indicating that the date is the day Z of the month Y of the year X.

[0023] According to this embodiment, the intention analyzing unit 50 extracts the attribute information E, based on the extracted intention information I. More specifically, the intention analyzing unit 50 selects and extracts the attribute parameter E0 from the extracted intention information I. The intention analyzing unit 50 reads out a relation table between the intention information I and the attribute parameters E0 stored in the storage 20, and detects, from the relation table, the intention information I matched with the extracted intention information I. The intention analyzing unit 50 then extracts the attribute parameter E0 associated with the matched intention information I. However, the intention analyzing unit 50 may communicate with an external server via the communication unit 18, and acquire the relation table from the external server.

[0024] After the intention analyzing unit 50 has extracted attribute parameters E0, the intention analyzing

unit 50 sets the attribute content E1 for each of the attribute parameters E0. The intention analyzing unit 50 extracts the attribute content E1 from, for example, the text data generated by the voice analyzing unit 32. That is, if a keyword "today" is included in the text data, the intention analyzing unit 50 sets the attribute content E1 of the attribute parameter E0, the date, to today. Furthermore, the intention analyzing unit 50 may set the attribute content E1 for the attribute parameter E0 in advance. For example, if the intention information I is weather information, set data indicating that the attribute content E1 of the location is Tokyo may be stored in the storage 20 in advance. Accordingly, even if a keyword indicating the location is not included in the text data, the intention analyzing unit 50 is able to set the attribute content E1 of the location to Tokyo. Furthermore, the intention analyzing unit 50 may set the attribute content E1 by communicating with the external server through the communication unit 18. In this case, for example, the intention analyzing unit 50 acquires the current location by communication with a global positioning system (GPS), and sets the location as the attribute content E1.

[0025] The intention analyzing unit 50 extracts the intention information I and the attribute information E as described above, but without being limited thereto. Any extraction methods for the intention information I and attribute information E may be used. FIG. 3 illustrates a case where the weather information is the intention information I, but the intention information I and attribute information E are able to be extracted similarly in other cases. For example, if information indicating that the power of the light is to be turned on is the

intention information I, the attribute information E includes information on the location of the light, and information on the date and time when the power is to be turned on.

[0026] The acquisition content information acquiring unit 52 illustrated in FIG. 2 executes, based on content of the intention information I, processing required by the user. If the intention information I indicates that a device is to be controlled, the acquisition content information acquiring unit 52 executes processing of content of the intention information I. For example, the acquisition content information acquiring unit 52 turns the power of the light at the location indicated by the attribute information E on.

[0027] FIG. 4 is a table illustrating acquisition information. If the intention information I indicates notification of required information, the acquisition content information acquiring unit 52 acquires the required information, that is, acquisition information A. The acquisition information A is information that the user H is to be notified of, and is, in other words, information determined by the process executing unit 34 to be information that the user H requires to be notified of. Based on the intention information I extracted by the intention analyzing unit 50, the acquisition content information acquiring unit 52 acquires the acquisition information A. More specifically, the acquisition content information acquiring unit 52 selects and extracts acquisition parameter A0 from the extracted intention information I. The acquisition content information acquiring unit 52 reads out a relation table between the intention information I and the acquisition parameters A0 stored in the storage 20, and detects, from the relation

table, the intention information I matched with the extracted intention information I. The acquisition content information acquiring unit 52 then extracts the attribute parameter A0 associated with the matched intention information I. However, the acquisition content information acquiring unit 52 may communicate with the external server via the communication unit 18, and acquire the relation table from the external server.

[0028] After having extracted the acquisition parameters A0, the acquisition content information acquiring unit 52 acquires, based on the attribute information E, acquisition content information A1 for each of the acquisition parameters A0. Specifically, for each of the acquisition parameters A0, the acquisition content information acquiring unit 52 acquires the acquisition content information A1 corresponding to the attribute content E1 set for that attribute parameter E0. By communicating with the external server/external device via the communication unit 18, the acquisition content information acquiring unit 52 acquires the acquisition content information A1 from the external server for each of the acquisition parameters A0. However, if the acquisition content information A1 has been stored in the storage 20, the acquisition content information acquiring unit 52 may acquire the acquisition content information A1 from the storage 20. That is, the acquisition content information A1 can be said to be data that the acquisition content information acquiring unit 52 acquires from a database of the external server, the storage 20, or the like.

[0029] As described above, the acquisition content information A1 is information that the acquisition content information acquiring unit 52 has acquired by the communication with the external server, or read-out from

the storage 20. In the example of FIG. 4, the intention information I is weather, and the acquisition parameters A0 are weather, air temperature, and chance of rainfall. In this case, the acquisition content information acquiring unit 52 acquires the acquisition content information A1 for the respective acquisition parameters A0, that is, weather, air temperature, and chance of rainfall, in Tokyo, on the day Z of the month Y of the year X. In the example of FIG. 4, the acquisition content information A1 for weather is "partly cloudy", the acquisition content information A1 for air temperature is "highest air temperature: 25 degrees; lowest air temperature: 15 degrees", and the acquisition content information A1 for chance of rainfall is "20%".

[0030] As described above, the acquisition content information acquiring unit 52 acquires, based on the attribute information E, the acquisition content information A1 for each of the acquisition parameter A0. According to this embodiment, multiple acquisition parameters A0 are associated with the intention information I. However, one acquisition parameter A0 may be associated with the intention information I. In this case, the intention information I itself can be said to be the acquisition parameter A0.

[0031] Referring back to FIG. 2, the voice-content generating unit 36 generates the output sentence based on the acquisition content information A1 acquired by the acquisition content information acquiring unit 52. The output sentence is data of the sentence for the voice V2 to be output by the voice output unit 12, that is, text data. It can be said that the output sentence is dialog data. The voice-content generating unit 36 includes a first output sentence generating unit 60 that generates a first output sentence as the output sentence, and a second output

sentence generating unit 62 that generates a second output sentence as the output sentence. The voice classifying unit 38 is explained before explaining of the first output sentence generating unit 60 and the second output sentence generating unit 62.

[0032] The voice classifying unit 38 analyzes the voice V1 acquired by the voice acquiring unit 30, and classifies the voice V1 to either one of a first voice V1A and a second voice V1B. In the present embodiment, the voice classifying unit 38 classifies the voice V1 to the second voice V1B when the voice V1 is determined to be a whisper as a result of analysis. The voice classifying unit 38 classifies the voice V1 to the first voice V1A when the voice V1 is determined not to be a whisper. A whisper is an unvoiced voice spoken without vibrating the vocal chords, but it is not limited to the unvoiced voice spoken without vibrating the vocal chords as long as it is classified to the second voice V1B by, for example, a method described later.

[0033] For example, the voice classifying unit 38 acquires a time waveform of intensity of the voice V1, and performs Fourier-transformation on the time waveform, thereby acquiring a spectrum that indicates intensity of the voice V1 per frequency. The voice classifying unit 38 classifies the voice V1 as either one of the first voice V1A or the second voice V1B by using a peak frequency that is equal to or higher than a predetermined intensity in the spectrum as a feature value. For example, the voice classifying unit 38 determines the voice as a whisper to classify to the second voice V1B when the peak frequency is equal to or lower than the threshold, and determines the voice as not a whisper to classify to the first voice V1A when the peak frequency is larger than the threshold. Note

that the voice classifying unit 38 can perform the classification to the first voice V1A and the second voice V1B by using any method. For example, the voice classifying unit 38 can perform the classification to the first voice V1A and the second voice V1B by using a slope of the peak in the spectrum as a feature value. Moreover, the voice classifying unit 38 can perform the classification to the first voice V1A and the second voice V1B by using either one of a volume of the voice V1, a speaking speed of the user in the voice V1, and a volume ratio between a speech of the user and a wind noise as a feature value. Furthermore, a proximity sensor can be provided in the voice-content control device 1, a distance between the user H and the voice-content control device 1 is calculated from a detection result of the proximity sensor, and the distance can be used as a feature value to perform the classification to the first voice V1A and the second voice V1B. Moreover, the voice classifying unit 38 can derive a Mel-frequency cepstrum coefficient as a feature value, and can perform the classification to the first voice V1A and the second voice V1B based on the mel-frequency cepstrum coefficient. In these cases, the voice classifying unit 38 sets a threshold of the feature value, and classifies the voice V1 as either one of the first voice V1A or the second voice V1B based on whether the feature value exceeds the threshold.

[0034] As described above, the voice classifying unit 38 classifies the voice V1 by using the voice V1 acquired by the voice acquiring unit 30. That is, the voice classifying unit 38 classifies the voice V1 to the second voice V1B when the voice V1 is a whisper, and to the first voice V1A when the voice V1 is not a whisper even when meaning of the voice V1 is the same.

[0035] Moreover, the voice classifying unit 38 is not limited to perform the classification to the first voice V1A and the second voice V1B, using the voice V1. The classification can be performed by generating text data of the voice V1 by performing character analysis of the voice V1 acquired by the voice acquiring unit 30, and by using the text data of the voice V1. For example, the voice classifying unit 38 can classify the voice V1 not by judging whether the voice is a whisper, but based on a keyword included in the voice V1. That is, the voice classifying unit 38 can classify the voice V1 to the second voice V1B when a keyword stored in the storage 20 is included in the voice V1, and to the first voice V1A when the keyword stored in the storage 20 is not included in the voice V1.

[0036] The voice classifying unit 38 can use either one of the classification methods explained above, or can perform the classification by combining the classification methods explained above.

[0037] The voice-content generating unit 36 causes the first output-sentence-generating unit 60 to generate the first output sentence when the voice classifying unit 38 classifies the voice V1 to the first voice V1A. That is, the voice-content generating unit 36 generates the first output sentence, not generating the second output sentence when the voice V1 is classified to the first voice V1A. The first output-sentence-generating unit 60 generates a sentence that includes all pieces of information of the intention information I, the attribute information E (the attribute content information E1), and the acquisition information A, which are acquired by the process executing unit 34, as the first output sentence. That is, the first output sentence is text data that includes all of the

intention information I, the attribute content information E1, and the acquisition information A acquired by the process executing unit 34.

[0038] In the example of FIG. 3 and FIG. 4, the intention information I is "weather", and the attribute content E1 is "the day Z of the month Y of the year X" and "Tokyo". In the acquisition information A, the acquisition parameters A0 are "weather", "air temperature", and "chance of rainfall", and the acquisition content information A1 is "partly cloudy", "highest air temperature: 25 degrees; lowest air temperature: 15 degrees", and "20%". In this case, the first output sentence generating unit 60 generates, as the first output sentence "On the day Z of the month Y of the year X, in Tokyo, the weather is partly cloudy, the chance of rainfall is 20%, the highest air temperature is 25 degrees, and the lowest air temperature is 15 degrees", for example. The intention information I, the attribute content E1, and the acquisition information A are each separate information. The first output sentence generating unit 60 has added information in the first output sentence, such that the first output sentence is formed into sentence including the intention information I, the attribute content E1, and the acquisition information A. That is, the first output sentence generating unit 60 has added information (a word or words) other than the intention information I, the attribute content E1, and the acquisition information A, in the first output sentence. This added information (word) may be, if the first output sentence is in Japanese, a polite Japanese expression such as "desu", or a Japanese postpositional particle "ha" and may be, if the first output sentence is in English, an article or the like. Hereinafter, this added information will be referred to as sentence information.

[0039] When the voice V1 has been classified as the second voice V1B by the voice classifying unit 38, the voice-content generating unit 36 causes the second output sentence generating unit 62 to generate the second output sentence. That is, if the voice V1 has been classified as the second voice V1B, the voice-content generating unit 36 generates the second output sentence without generating the first output sentence. The second output sentence generating unit 62 generates the second output sentence by generating sentence such that a part of information is omitted, as compared to the first output sentence. Therefore, an amount of sentence of the second output sentence is less than that of the first output sentence. In other words, if the first output sentence and the second output sentence were to be generated based on the same intention information I, attribute information E, and acquisition information A, the amount of sentence of the second output sentence would be less than that of the first output sentence because information included in the second output sentence would be omitted as compared to the first output sentence.

[0040] Specifically, the second output sentence generating unit 62 generates the second output sentence such that the second output sentence does not include at least one of the intention information I, the attribute content E1, the acquisition information A, and the sentence information that is added when the first output sentence is generated, the intention information I, attribute content E1, and acquisition information A having been acquired by the process executing unit 34. In other words, if the first output sentence were to be generated based on the same intention information I, attribute information E, and acquisition information A, the second output sentence

generating unit 62 would generate the second output sentence by omitting at least one of the intention information I, the attribute content E1, the acquisition information A. and the sentence information all included in the first output sentence.

[0041] If the intention information I is not to be included in the second output sentence, that is, if the intention information I is to be omitted, for example, "weather", which is the intention information I, will be omitted, and the second output sentence will be "On the day Z of the month Y of the year X, Tokyo is partly cloudy, the chance of rainfall is 20%, the highest air temperature is 25 degrees, and the lowest air temperature is 15 degrees". Since the intention information I is a type of information that the user H wishes to ask for, the user H is able to understand the content even if the intention information I is omitted.

[0042] Furthermore, if the attribute content E1 is not to be included in the second output sentence, that is, if the attribute content E1 is to be omitted, for example, "the day Z of the month Y of the year X" and "Tokyo", which are the attribute content E1, will be omitted, and the second output sentence will be "The weather is partly cloudy, the chance of rainfall is 20%, the highest air temperature is 25 degrees, and the lowest air temperature is 15 degrees". Since the user H has normally included the attribute content E1 in the voice V1 the user H is able to understand the content even if the attribute content E1 is omitted. In other words, the second output sentence generating unit 62 may select information included in the voice V1 as omitted information, that is, information not to be included in the second output sentence. That is, the second output sentence generating unit 62 determines

information included in the voice V1 spoken by the user H as a part of information to be omitted. Further, even if the attribute content E1 is not included in the voice V1, the attribute content E1 may have been stored as the set data in the storage 20. In this case, since the user H is aware that the attribute content E1 is the set data, that is, the attribute content E1 has been set as default data, the user H is able to understand the content even if the attribute content E1 is not included in the voice V1. If there are multiple types of the attribute content E1, the second output sentence generating unit 62 may omit all of the types of attribute content E1 or may omit a part of the types of attribute content E1.

[0043] Furthermore, if the sentence information is to be not included in the second output sentence, that is, if the text information is to be omitted, for example, a word/words that is/are the sentence information will be omitted, and the second output sentence will be "On day Z of month Y of year X, in Tokyo, weather partly cloudy, chance of rainfall 20%, highest air temperature 25 degrees, and lowest air temperature 15 degrees". That is, if the second output sentence is in Japanese, for example, the polite Japanese expression will be omitted as the sentence information, and if the second output sentence is in English, the articles will be omitted.

[0044] The acquisition information A, on the other hand, is information that the user H wishes to ask for, and is thus desirably not omitted, as compared to the intention information I, the attribute content E1, and the sentence information. In particular, since the acquisition content information A1 is data themselves to be provided to the user H, the acquisition content information A1 is desirably not omitted. That is, desirably, the second output

sentence generating unit 62 generates the second output sentence by selecting information to be omitted from information excluding the acquisition content information A1. In other words, desirably, without selecting the acquisition content information A1 as information to be omitted, the second output sentence generating unit 62 includes the acquisition content information A1 in the second output sentence. Accordingly, by selecting information not to be included in the second output sentence, from information excluding the acquisition content information A1, and not selecting the acquisition content information A1 as the information to be not included the second output sentence, the second output sentence generating unit 62 enables the user H to understand the content, and the amount of sentence to be adequately reduced.

[0045] However, the second output sentence generating unit 62 may omit the acquisition information A, and such a case will be described hereinafter. For example, the second output sentence generating unit 62 may select the acquisition parameters A0 of the acquisition information A, as information to be omitted. In this case, "weather", "chance of rainfall", and "air temperature (highest air temperature and lowest air temperature)", which are all the acquisition parameters A0, will be omitted, and the second output sentence will be "On the day Z of the month Y of the year X, Tokyo is partly cloudy, 20%, and 15 degrees to 25 degrees.". Since the acquisition parameters A0 are information associated with the acquisition content information A1 that the user H wishes to ask for, when the user H is notified of the acquisition content information A1, the user H is able to recognize each of the parameters A0 corresponding to each of the acquisition content

information A1.

[0046] More specifically, if the acquisition content information A1 is numerical information including a unit, the second output sentence generating unit 62 selects, as information to be omitted, the acquisition parameter A0 associated with the acquisition content information A1, that is, information indicating type of the numerical information. When the acquisition content information A1 includes a unit, the user H is able to recognize the acquisition parameter A0 from that unit.

[0047] Furthermore, if the acquisition content information A1 is information indicating a numerical range, the second output sentence generating unit 62 selects, as information to be omitted, the acquisition parameter A0 associated with the acquisition content information A1. The acquisition parameter A0 to be omitted in this case is information indicating the highest value in the numerical range ("highest air temperature" in this example), and information indicating the lowest value in the numerical range ("lowest air temperature" in this example).

[0048] Furthermore, if the acquisition content information A1 is information indicating start and end, the second output sentence generating unit 62 selects, as information to be omitted, the acquisition parameters A0 associated with the acquisition content information A1. The information indicating start and end is, for example, information for a case where a departure station is Tokyo Station and an arrival station is Yokohama Station. In this case, Tokyo Station is information indicating the start, and Yokohama Station is information indicating the end. In this case, for example, the first output sentence will be "The departure station is Tokyo Station and the arrival station is Yokohama Station.", while the second

output sentence will be "It will be from Tokyo Station to Yokohama Station." by omission of "departure station" and "arrival station", which are the acquisition parameters A0. That is, in this case, it can be said that "departure station" that is an acquisition parameter A0 is information corresponding to the start in the acquisition content information A1, and "arrival station" that is another acquisition parameter A0 is information corresponding to the end is the end in the acquisition content information A1. In the above described case also, since the second output sentence includes "from A to B" as the acquisition content information A1, the user H is able to understand the content even if the acquisition parameters A0 is omitted.

[0049] Furthermore, if multiple types of the intention information I or multiple types of the acquisition content information A1 have been acquired, the second output sentence generating unit 62 may select, as information to be omitted, a part of the multiple types of acquisition content information A1. For example, if the multiple types of intention information I have been extracted, the second output sentence generating unit 62 omits the acquisition content information A1 belonging to one of the types of intention information I. For example, the second output sentence generating unit 62 omits, as the information of low priority, the acquisition content information A1 of the type of the intention information I the amount of which, on being generated as the sentence, would become large. For example, described below is a case where it has been set such that weather and news are extracted as types of the intention information I when the voice V1 is "Good morning." In this case, when the output sentence related to the news would be longer in length than the output

sentence related to the weather, the second output sentence generating unit 62 omits the acquisition content information A1 related to the news, and leaves the acquisition content information A1 related to the weather.

[0050] Furthermore, when multiple types of the acquisition content information A1 have been acquired for one type of the intention information I, the second output sentence generating unit 62 may also omit one of the multiple types of the acquisition content information A1. For example, if the type of the intention information I is for notification of traffic jam information, the acquisition content information A1 will be pieces of traffic jam information for different locations. In this case, the second output sentence generating unit 62 omits, as a piece of information of low priority, pieces of traffic jam information of low importance (acquisition content information A1), such as, for example, pieces of traffic jam information for locations far from the current position, or pieces of traffic jam information for locations in which degree of traffic jam is small.

[0051] Accordingly, when there are multiple types of the acquisition content information A1, and a part of the multiple types of the acquisition content information A1 is to be omitted, the second output sentence generating unit 62 selects, as information to be omitted, a type of the acquisition content information A1 of low priority. Priority levels are set and stored in the storage 20 in advance, and the second output sentence generating unit 62 selects, based on the stored priority levels, a type of the acquisition content information A1 of low priority. That is, for example, the small amount of the sentence may be determined to be high priority, or traffic jam information for a location close to the current position may be

determined to be high priority, and these priority levels are stored.

[0052] As described above, the second output sentence generating unit 62 generates the second output sentence by omitting at least one of the intention information I, the attribute content E1, the acquisition information A, and the sentence information. That is, the intention information I, the attribute content E1, the acquisition information A, and the sentence information can be said to be omittable information. The second output sentence generating unit 62 may select all of the above described omittable information as the information to be omitted, or may omit only a part of the omittable information. For example, the voice-content control device presets information to be actually omitted among the omittable information. For example, if the intention information I and the attribute content E1 have been set as the information to be omitted, the second output sentence generating unit 62 will always omit the intention information I and the attribute content E1 on generating the second output sentence, regardless of the type of the intention information I and attribute content E1. Furthermore, the voice-content control device 1 may have a table stored in the storage 20 in advance, the table indicating the types of the information to be actually omitted. In this case, since, for example, the intention information I to be omitted (for example, weather) will be distinguished from the information not to be omitted (for example, time), the information to be omitted is able to be appropriately selected according to the type of the information.

[0053] The voice-content generating unit 36 generates the output sentence as described below. The above

description is on a generation method for the output sentence in a case where the intention information I is a content indicating the notification of the information. In a case where the intention information I is a content indicating control of a device, the voice-content generating unit 36 generates the second output sentence similarly such that the information is omitted in the second output sentence as compared to first output sentence. In this case, after execution of control by the acquisition content information acquiring unit 52 (for example, control of turning the power of the light on), the voice-content generating unit 36 generates, as the output sentence, sentence explaining the execution state of that control. More specifically, if the voice V1 has been classified as the first voice V1A, the voice-content generating unit 36 generates, as the first output sentence, text data corresponding to "Yes, the processing has been accepted." That is, the first output sentence includes information for a reply such as "Yes", and information for sentence following the information for the reply such as "the processing has been accepted". On the contrary, when the voice V1 has been classified as the second voice V1B, the voice-content generating unit 36 generates, as the second output sentence, text data corresponding to "Yes". That is, in this case, the second output sentence includes information for a reply, and information for sentence following the information for the reply is omitted. Therefore, in also this case, when the voice V1 has been classified as the second voice V1B, the voice-content generating unit 36 can be said to omit a part of information that would be included in the first output sentence when the first output sentence were generated.

[0054] Referring back to FIG. 2, the output controller

40 acquires the output sentences generated by the voice-content generating unit 36, that is, the first output sentence or the second output sentence. The output controller 44 converts the output sentences in the text data into voice data, and causes the voice output unit 12 to output the voice data as the second voice V2. The output controller 40 makes a sound volume of a voice V2 for reading the first output sentence and a sound volume of the voice V2 for reading the second output sentence the same when the same sound volume has been set therefor. That is, the output controller 40 does not change the sound volume of the voice V2 between the first output sentence and the second output sentence. However, the output controller 40 may use different sound volumes for the voice V2 between the first output sentence and the second output sentence. Furthermore, the output controller 40 can control the lighting unit 14 to turn on the light when the voice V2 is output, when the processing by the acquisition content information acquiring unit 52 is completed, when the voice V1 is detected, or the like.

[0055] The controller 16 has a configuration as described above. A flow of output processing of the output sentence by the controller 16 is explained based on a flowchart. FIG. 5 is a flowchart showing a flow of output processing of the output sentence according to the first embodiment. As shown in FIG. 5, the controller 16 acquires the input voice, that is, the voice data of the voice V1, by the voice acquiring unit 30 (step S10). The controller 16 causes the voice analyzing unit 32 to analyze the voice data of the voice V1 acquired by the voice acquiring unit 30, and generates the text data (step S12). Subsequently, the controller 16 causes the intention analyzing unit 50 to extract the intention information I and the attribute

information E from the text data (step S14). After having extracted the intention information I and the attribute information E, the controller 16 performs, through the acquisition content information acquiring unit 52, execution of processing for the intention information I or acquisition of the acquisition information for the intention information I (Step S16). That is, when the intention information I is a content indicating that a device is to be controlled, the acquisition content information acquiring unit 52 executes processing of content prescribed by the intention information I and the attribute information E (for example, turning on the power of the light). On the contrary, when the intention information I is a content indicating notification of information, the acquisition content information acquiring unit 52 acquires the acquisition information A based on the intention information I and the attribute information E. Specifically, the acquisition content information acquiring unit 52 extracts the acquisition parameters A0 based on the intention information I and the attribute information E, and acquires the acquisition content information A1 for each of the acquisition parameters A0. Furthermore, when the input voice, namely the voice V1, is acquired at step S10, the controller 16 causes the voice classifying unit 38 to classify the voice V1 as either one of the first voice V1A or the second voice V1B (step S18).

[0056] The controller 16 determines whether the voice V1 is the first voice V1A (step S20), and the voice V1 is determined to be the first voice V1A (step S20: YES), causes the first output sentence generating unit 60 to generate the first output sentence (step S22). On the other hand, when the voice V1 is determined not to be the first voice V1A (step S20: NO), that is, the voice V1 is

determined to be the second voice V1B, the controller 16 causes the second output sentence generating unit 62 to generate the second output sentence (step S24). After having generated the output sentence, that is, the first output sentence or the second output sentence, the controller 16 causes the output controller 40 to output the output sentence as the voice V2 by the voice output unit 12 (step S26), and ends the processing. That is, when the first output sentence is generated, the output controller 40 converts the first output sentence into the voice data, and causes the voice output unit 12 to output it as the voice V2. When the second output sentence is generated, the output controller 40 converts the second output sentence into the voice data, and causes the voice output unit 12 to output it as the voice V2.

[0057] The voice-content control device 1 according to this embodiment has the voice classifying unit 38, the process executing unit 34, and the voice-content generating unit 36. By analyzing the voice V1 spoken by the user H and acquired by the voice acquiring unit 30, the voice classifying unit 38 classifies the voice V1 as the first voice V1A or the second voice V1B. The process executing unit 34 analyzes the voice V1 acquired by the voice acquiring unit 30, and executes the processing required by the user H. The voice-content generating unit 36 generates, based on the content of the processing executed by the process executing unit 34, the output sentence that is sentence/text data for the voice V2 to be output to the user H. When the voice V1 has been classified as the first voice V1A, the voice-content generating unit 36 generates, as the output sentence, the first output sentence. When the voice V1 has been classified as the second voice V1B, the voice-content generating unit 36 generates, as the

output sentence, the second output sentence in which a part of the information is omitted as compared to the first output sentence. Furthermore, according to this embodiment, when the voice V1 has been classified as the second voice V1B, the voice-content generating unit 36 generates, as the output sentence, the second output sentence that is less in the amount of the sentence than the first output sentence by generating the sentence such that a part of the information is omitted as compared to the first output sentence.

[0058] The voice V2 output as the voice data of the output sentence is output to the user H, but as described above, the voice V2 may reach a person, other than the user H, who is around the voice-content control device 1. When the user H determines that the voice V2 is not desired to influence any person around the voice-content control device 1, the user H changes the voice V1 by, for example, uttering the voice V1 as a whispered voice, even if the same content is to be told, unlike a case where the user determines that the person may be influenced by the voice V2. When the voice V1 classified as the first voice V1A has been detected by analysis of the voice V1 of the user H, the voice-content control device 1 determines that the influence of the voice V2 on any person other than the user H does not need to be considered, and generates the first output sentence for the voice V2. On the contrary, when the voice V1 classified as the second voice V1B has been detected, the voice-content control device 1 determines that the influence of the voice V2 on any person other than the user H needs to be considered, and generates, for the voice V2, the second output sentence in which the amount of the sentence is smaller than that of the first output sentence. Thereby, when there is a need for consideration

of the influence of the voice V2 on any person other than the user H, the voice-content control device 1 is able to reduce the amount of the sentence generated as the voice V2 and shorten the output length of the voice V2, thereby suppress the influence of the voice V2 on the person other than the user H. Furthermore, since the voice-content control device 1 generates the second output sentence by omitting a part of the information, the voice-content control device 1 enables the user H to adequately understand the content of the voice V2, that is, the content of the second output sentence by adjusting the omitted information.

[0059] Furthermore, the process executing unit 34 has the intention analyzing unit 50 that extracts, based on the voice V1, the intention information I indicating an intension of the user H, and the acquisition content information acquiring unit 52 that acquires, based on the intention information I, the acquisition content information A1 that the user H is to be notified of. The voice-content generating unit 36 generates, as the output sentence, the text data including the acquisition content information A1. Since the voice-content control device 1 make the acquisition content information A1 acquired based on the intention information I included in the output sentence, the information desired by the user H is able to be adequately conveyed to the user H.

[0060] Furthermore, when the voice V1 has been classified as the second voice V1B, the voice-content generating unit 36 generates the second output sentence by selecting the information to be omitted from the information excluding the acquisition content information A1. The acquisition content information A1 may refer to the information itself that is required by the user H.

Since the voice-content generating unit 36 selects the information to be omitted from the information excluding the acquisition content information A1, the notification of the information is enabled without the omission of the acquisition content information A1, and the user H is able to adequately understand the content of the voice V2.

[0061] Furthermore, the voice-content generating unit 36 does not select the acquisition content information A1 as the information to be omitted, and make the acquisition content information A1 included in the second output sentence. The voice-content generating unit 36 is able to perform the notification of the information without omitting the acquisition content information A1, and allow the user H to adequately understand the content of the voice V2.

[0062] Furthermore, the voice-content generating unit 36 selects the information to be omitted from the table that has been set in advance. Since the information to be omitted is selected from the table stored in the storage 20, the voice-content control device 1 enables the omitted information to be appropriately selected and the user H to adequately understand the content of the voice V2.

[0063] Furthermore, the voice-content generating unit 36 selects, as the information to be omitted, the information included in the voice V1 spoken by the user H. Even if the information included in the voice V1 spoken by the user H is omitted, it is easy for the user H to understand the meaning. By the omission of such information included in the voice V1, the voice-content control device 1 enables the content of the voice V2 to be adequately understood, and the influence of the voice V2 on any person other than the user H to be suppressed.

[0064] Furthermore, if the acquisition content

information A1 includes the numerical information including a unit, the voice-content generating unit 36 selects, as the information to be omitted, the information indicating the type of the numerical information (the acquisition parameter A0). By the omission of the acquisition parameter A0 associated with the acquisition content information A1 including the unit, the voice-content control device 1 enables the content of the voice V2 to be adequately understood, and the influence of the voice V2 on any person other than the user H to be suppressed.

[0065] When the multiple types of the acquisition content information A1 have been acquired from the process executing unit 34, the voice-content generating unit 36 selects, as the information to be omitted, the types of the acquisition content information A1 of low priority. By the omission of the type of the acquisition content information A1 of low priority, the voice-content control device 1 enables the content of the voice V2 to be adequately understood, and the influence of the voice V2 on any person other than the user H to be suppressed.

[0066] The voice-content generating unit 36 selects, as the information to be omitted, the types of the acquisition content information A1 the amount of which, on being generated as the output sentence, would become large from the multiple types of the acquisition content information A1. By the omission of the type of the acquisition content information A1 the amount of which, on being generated as the output sentence, would become large, the voice-content control device 1 enables the influence of the voice V2 on any person other than the user H to be suppressed.

[0067] The voice-content generating unit 36 determines the priority levels of the information in advance, and based on the priority levels determined in advance, selects

the information to be omitted. By the determination of the priority levels in advance, the voice-content control device 1 enables the content of the voice V2 to be adequately understood, and the influence of the voice V2 on any person other than the user H to be suppressed.

[0068] When the voice V1 spoken by the user H is the whispered voice, the voice classifying unit 38 classifies the voice V1 as the second voice V2B. By detecting the whispered voice to generate the second output sentence, the voice-content control device 1 can determine whether the voice-content control device 1 is in a state of influencing any person other than the user H adequately, and suppress the influence adequately.

[0069] FIG. 6 is a flow chart illustrating another example of the flow of the output processing for the output sentence. When the voice V1 is the second voice V1B, the voice-content generating unit 36 according to the above described embodiment generates the second output sentence without generating the first output sentence. However, after generating the first output sentence, the voice-content generating unit 36 may generate the second output sentence by omitting a part of the information of the generated first output sentence. That is, as illustrated in FIG. 6, after the processing by the acquisition content information acquiring unit 52 has been performed at Step S16, the voice-content generating unit 36 generates the first output sentence without referring to the classification result for the voice V1, that is, regardless of the classification result (Step S17). When, after generating the first output sentence, the voice V1 is determined to be the first voice V1A (Step S20A; Yes), the voice-content generating unit 36 proceeds to Step S26, and outputs that first output sentence. On the contrary, when,

after generating the first output sentence, the voice V1 is determined not to be the first voice V1A (Step S20A; No), that is, the voice V1 is determined to be the second voice V1B, the voice-content generating unit 36 generates the second output sentence by omitting a part of the information of the generated first output sentence (Step S24A), and generates the second output sentence. The information omission method for the second output sentence in this case may be the method that has been described already.

Second Embodiment

[0070] Next, a second embodiment is explained. While the output-content control device 1 according to the first embodiment includes the voice detecting unit 10 and the voice output unit 12, an output-content control device 1A according to the second embodiment does not include the voice detecting unit 10 and the voice output unit 12. In the second embodiment, explanation of parts having the common configurations with the first embodiment is omitted.

[0071] FIG. 7 is a schematic block diagram of an information output system according to the second embodiment. As shown in FIG. 7, an information output system 100 according to the second embodiment includes the voice-content control device 1A and a response device 2A. The response device 2A is, for example, a smart speaker, and includes the voice detecting unit 10, the voice output unit 12, the lighting unit 14, and a communication unit 15A. The voice-content control device 1A is a device (server) positioned distant from the response device 2A, and includes the controller 16, a communication unit 18A, and the storage 20. The voice-content control device 1A and the response device 2A are connected by wireless communication, but can be connected by wired communication.

[0072] The voice-content control device 1A acquires the voice V1 that has been detected by the voice detecting unit 10 through information communication via the communication unit 15A and the communication unit 18A. The voice-content control device 1A then generates the output sentence by performing similar processing as the first embodiment, and output the output sentence to the response device 2A. The response device 2A converts the output sentence into the voice data by the voice output unit 12 to output as the voice V2. Note that the voice-content control device 1A can generate the output sentence and transmit to the response device 2A. In this case, the voice output unit 12 outputs the acquired voice data as the voice V2. As described, the information output system 100 includes the voice-content control device 1A, the voice detecting unit 10 that detects the voice V1 spoken by the user H, and the voice output unit 12 that outputs the output sentence generated by the voice-content generating unit 36 as the voice V2. As described above, the voice-content control device 1A produces effects similar to those of the first embodiment even when the response device 2A is a separate unit.

[0073] According to the present application, on outputting the voice to the user, the influence of the output voice on people other than the user is able to be suppressed, and the content of the voice output to the user is able to be made adequately understandable.

[0074] Although the application has been described with respect to specific embodiments for a complete and clear disclosure, the appended claims are not to be thus limited but are to be construed as embodying all modifications and alternative constructions that may occur to one skilled in the art that fairly fall within the basic teaching herein

set forth.

What is claimed is:

1. A voice-content control device, comprising:

a voice classifying unit configured to analyze a voice spoken by a user and acquired by a voice acquiring unit to classify the voice as either one of a first voice or a second voice;

a process executing unit configured to analyze the voice acquired by the voice acquiring unit to execute processing required by the user; and

a voice-content generating unit configured to generate, based on content of the processing executed by the process executing unit, output sentence that is text data for a voice to be output to the user, wherein

the voice-content generating unit is further configured to generate a first output sentence as the output sentence when the acquired voice has been classified as the first voice, and generate a second output sentence in which information is omitted as compared to the first output sentence as the output sentence when the acquired voice has been classified as the second voice.

2. The voice-content control device according to claim 1, wherein

the process executing unit comprises:

an intention analyzing unit configured to extract intention information indicating an intention of the user based on the voice acquired by the voice acquiring unit; and

an acquisition content information acquiring unit configured to acquire acquisition content information which is notified to the user based on the extracted intention information, and

the voice-content generating unit is further configured to generate the text data including the acquisition content information as the output sentence.

3. The voice-content control device according to claim 1, wherein, on generating the second sentence, the voice-content generating unit is further configured to omit a part of information included in the voice spoken by the user.

4. The voice-content control device according to claim 1, wherein, when the voice spoken by the user is a whispered voice, the voice classifying unit is further configured to classify the voice as the second voice.

5. A voice-content control method, comprising:

acquiring a voice spoken by a user;

analyzing the acquired voice to classify the acquired voice as either one of a first voice and a second voice;

analyzing the acquired voice to execute processing intended by the user; and

generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user, wherein

at the generating,

a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice, and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice.

6. A non-transitory storage medium that stores a voice-content control program that causes a computer to execute:

acquiring a voice spoken by a user;

analyzing the acquired voice to classify the acquired voice as either one of a first voice and a second voice;

analyzing the acquired voice to execute processing intended by the user; and

generating, based on content of the executed processing, output sentence that is text data for a voice to be output to the user, wherein

at the generating,

a first output sentence is generated as the output sentence when the acquired voice has been classified as the first voice, and

a second output sentence is generated as the output sentence in which a part of information included in the first output sentence is omitted when the acquired voice has been classified as the second voice.

ABSTRACT

A voice-content control device includes a voice classifying unit configured to analyze a voice spoken by a user and acquired by a voice acquiring unit to classify the voice as either one of a first voice or a second voice, a process executing unit configured to analyze the acquired voice to execute processing required by the user, and a voice-content generating unit configured to generate, based on content of the executed processing, output sentence that is text data for a voice to be output to the user, wherein the voice-content generating unit is further configured to generate a first output sentence as the output sentence when the analyzed voice has been classified as the first voice, and generate a second output sentence in which information is omitted as compared to the first output sentence as the output sentence when the analyzed voice has been classified as the second voice.

FIG.1

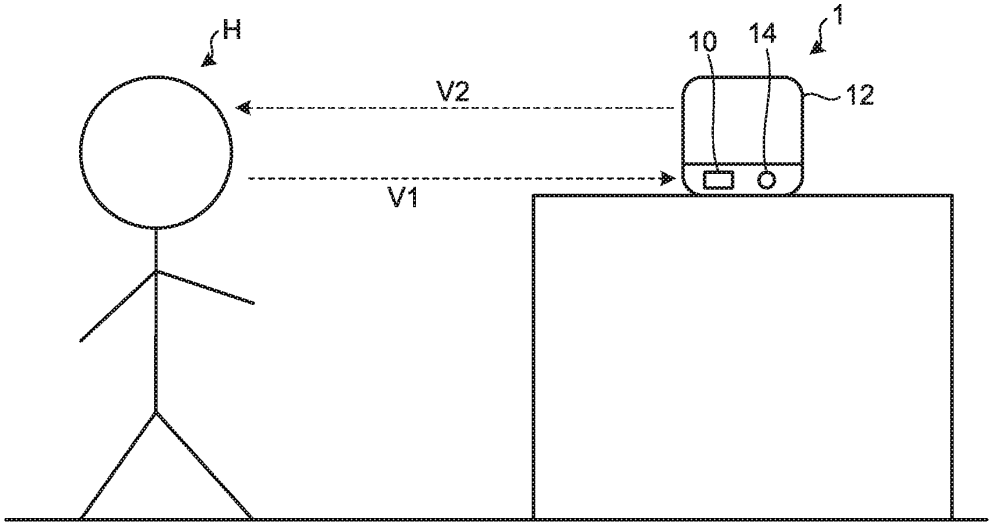


FIG.2

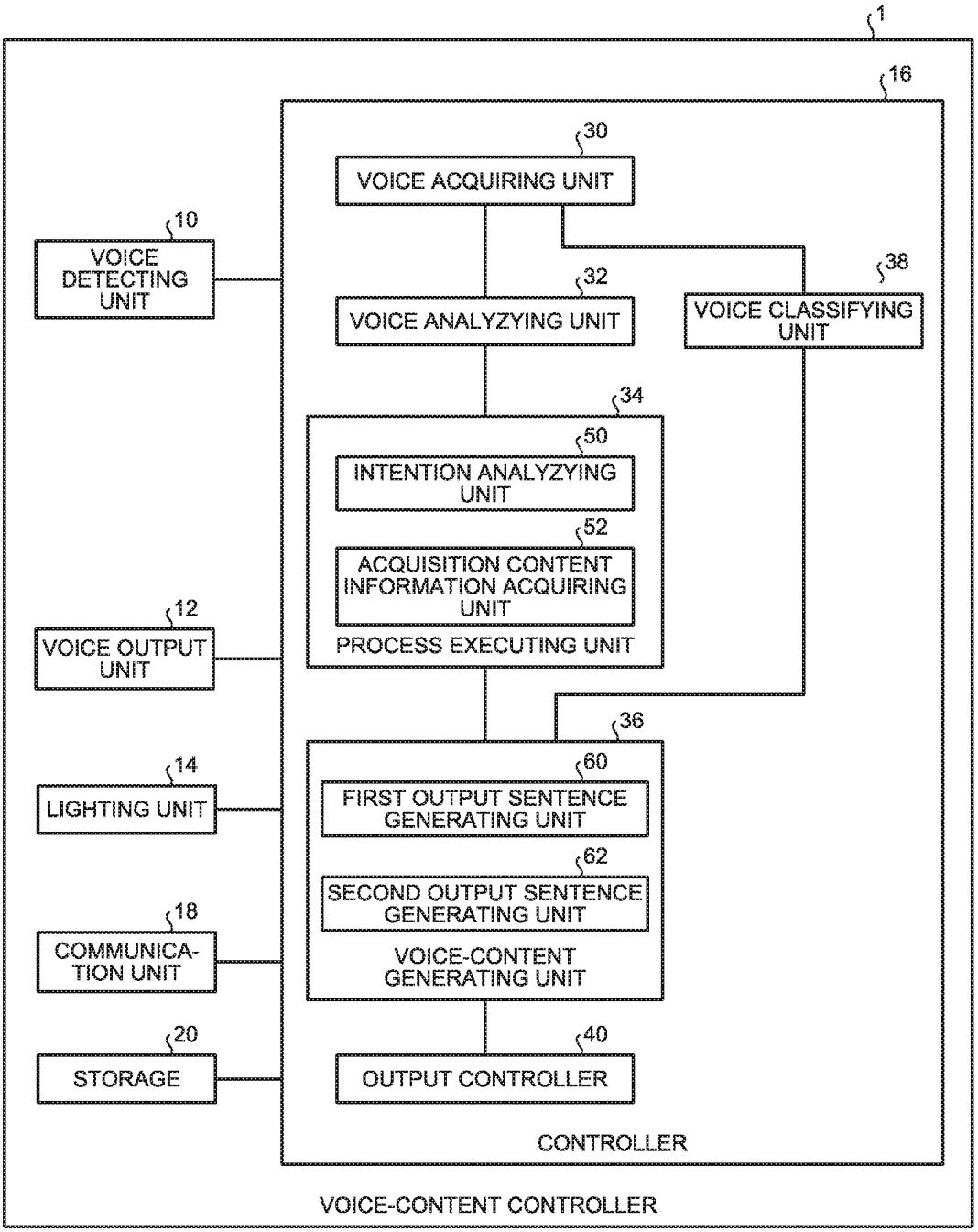

1
16
30
VOICE ACQUIRING UNIT
10
VOICE DETECTING UNIT
32
VOICE ANALYZYING UNIT
38
VOICE CLASSIFYING UNIT
34
50
INTENTION ANALYZYING UNIT
52
ACQUISITION CONTENT INFORMATION ACQUIRING UNIT
PROCESS EXECUTING UNIT
12
VOICE OUTPUT UNIT
36
60
FIRST OUTPUT SENTENCE GENERATING UNIT
14
LIGHTING UNIT
62
SECOND OUTPUT SENTENCE GENERATING UNIT
18
COMMUNICA-TION UNIT
VOICE-CONTENT GENERATING UNIT
20
STORAGE
40
OUTPUT CONTROLLER
CONTROLLER
VOICE-CONTENT CONTROLLER

FIG.3

INTENTION INFORMATION I	ATTRIBUTE PARAMETER E0/ ATTRIBUTE CONTENT E1	ATTRIBUTE PARAMETER E0/ ATTRIBUTE CONTENT E1
WEATHER	DATE	LOCATION
	DAY Z OF MONTH Y OF YEAR X	TOKYO

FIG.4

INTENTION INFORMATION I	ACQUISITION PARAMETER A0/ ACQUISITION CONTENT INFORMATION A1	ACQUISITION PARAMETER A0/ ACQUISITION CONTENT INFORMATION A1	ACQUISITION PARAMETER A0/ ACQUISITION CONTENT INFORMATION A1
WEATHER	WEATHER	AIR TEMPERATURE	CHANCE OF RAINFALL
	PARTLY CLOUDY	HIGHEST AIR TEMPERATURE: 25 DEGREES LOWEST AIR TEMPERATURE: 15 DEGREES	20%

FIG.5

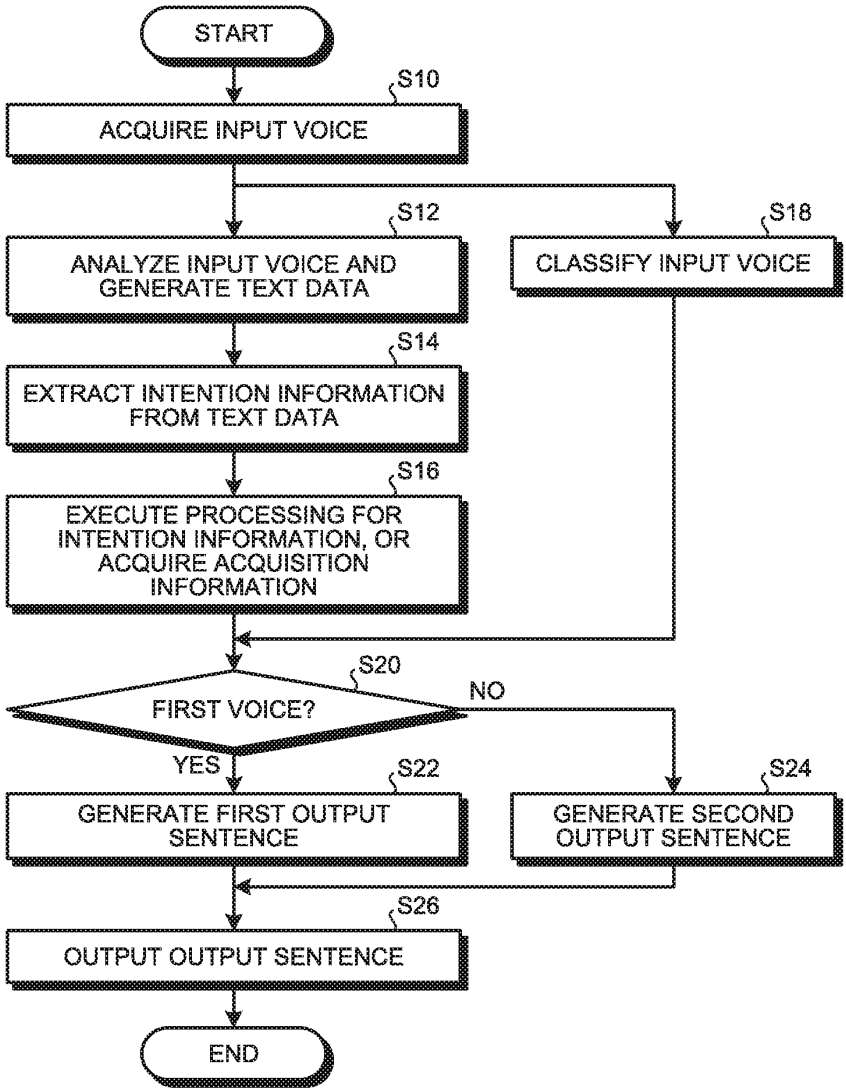

START
S10
ACQUIRE INPUT VOICE
S12
ANALYZE INPUT VOICE AND GENERATE TEXT DATA
S18
CLASSIFY INPUT VOICE
S14
EXTRACT INTENTION INFORMATION FROM TEXT DATA
S16
EXECUTE PROCESSING FOR INTENTION INFORMATION, OR ACQUIRE ACQUISITION INFORMATION
S20
FIRST VOICE?
NO
YES
S22
GENERATE FIRST OUTPUT SENTENCE
S24
GENERATE SECOND OUTPUT SENTENCE
S26
OUTPUT OUTPUT SENTENCE
END

FIG.6

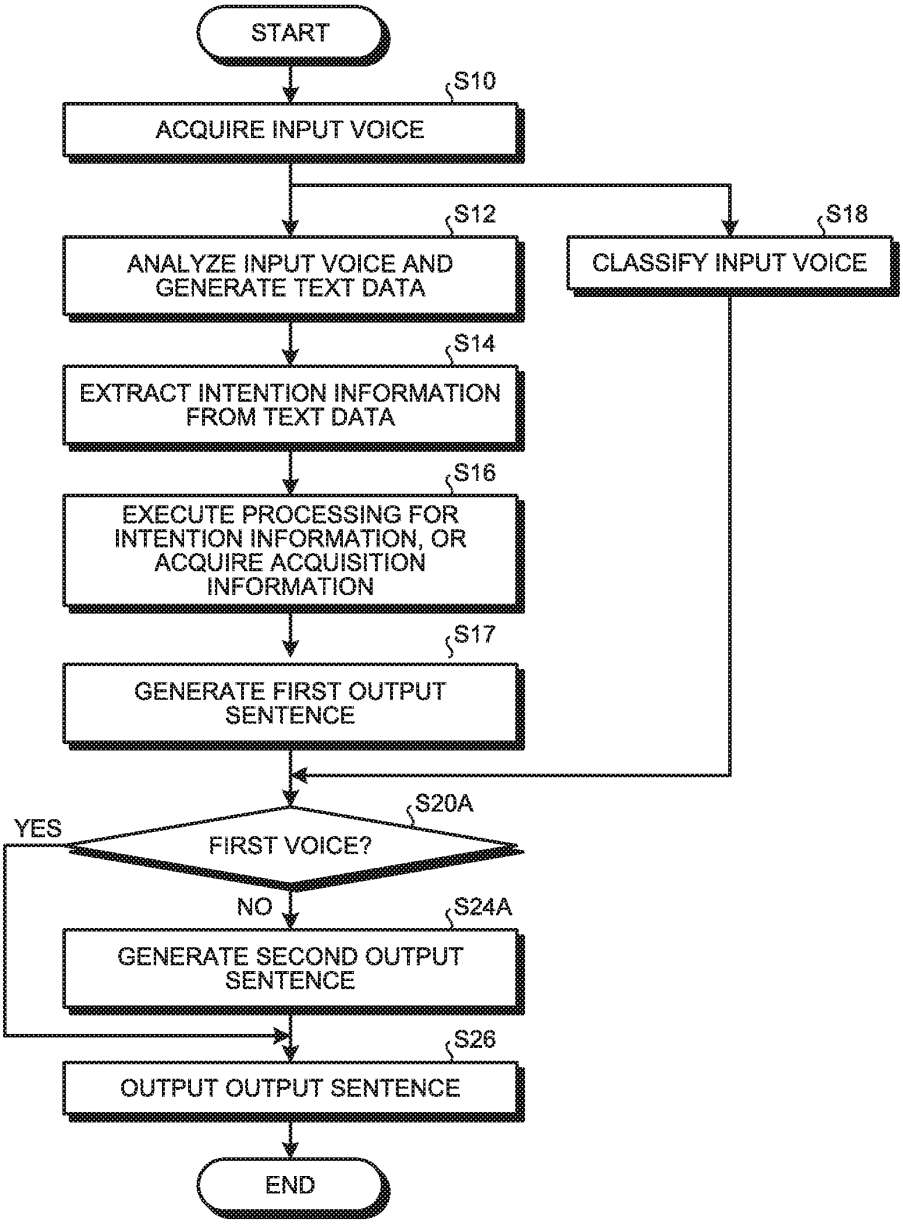
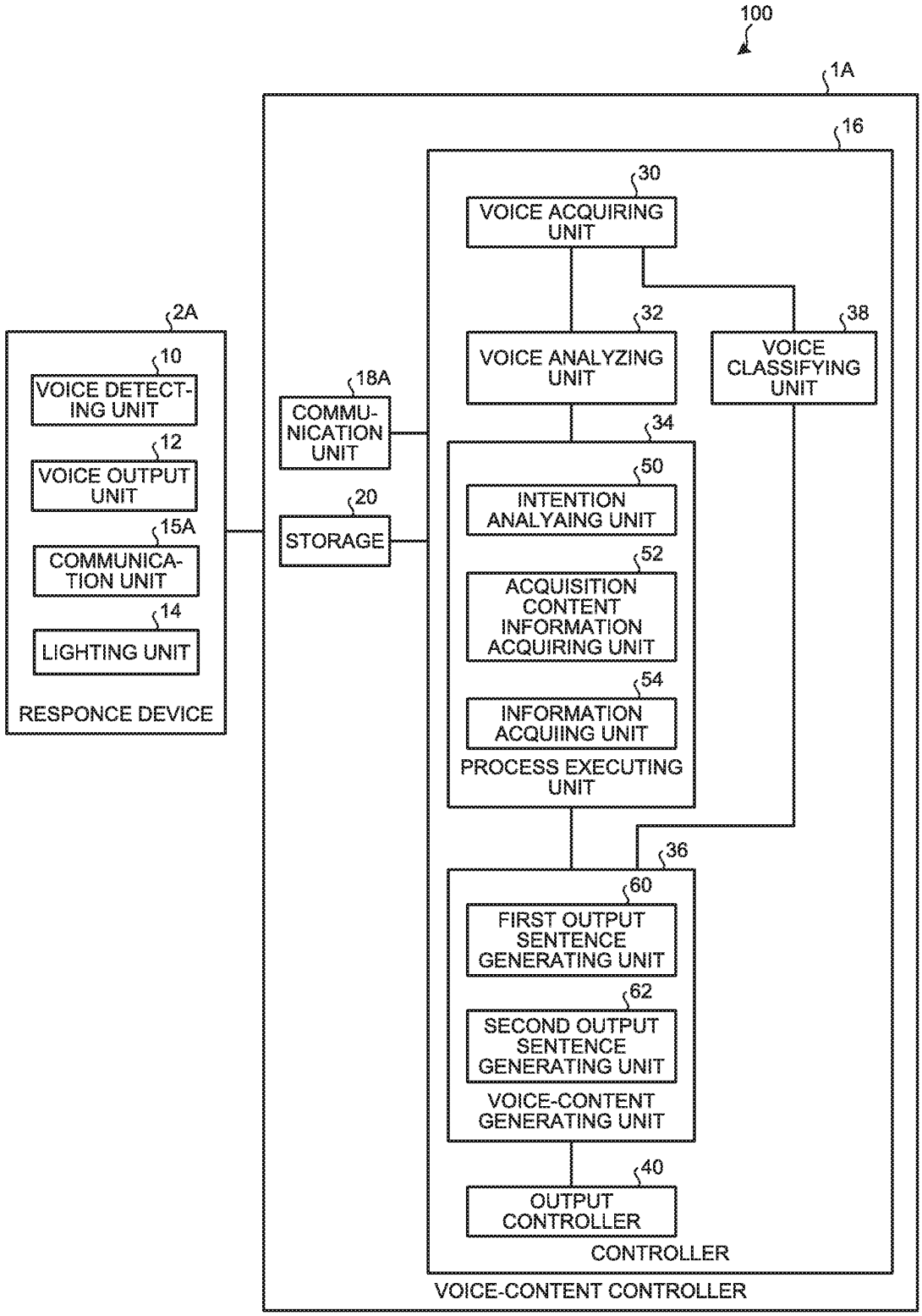

START
S10
ACQUIRE INPUT VOICE
S12
ANALYZE INPUT VOICE AND GENERATE TEXT DATA
S18
CLASSIFY INPUT VOICE
S14
EXTRACT INTENTION INFORMATION FROM TEXT DATA
S16
EXECUTE PROCESSING FOR INTENTION INFORMATION, OR ACQUIRE ACQUISITION INFORMATION
S17
GENERATE FIRST OUTPUT SENTENCE
S20A
FIRST VOICE?
YES
NO
S24A
GENERATE SECOND OUTPUT SENTENCE
S26
OUTPUT OUTPUT SENTENCE
END

FIG.7


100
1A
16
30
VOICE ACQUIRING UNIT
32
VOICE ANALYZING UNIT
38
VOICE CLASSIFYING UNIT
34
50
INTENTION ANALYAING UNIT
52
ACQUISITION CONTENT INFORMATION ACQUIRING UNIT
54
INFORMATION ACQUIING UNIT
PROCESS EXECUTING UNIT
36
60
FIRST OUTPUT SENTENCE GENERATING UNIT
62
SECOND OUTPUT SENTENCE GENERATING UNIT
VOICE-CONTENT GENERATING UNIT
40
OUTPUT CONTROLLER
CONTROLLER
VOICE-CONTENT CONTROLLER
18A
COMMU-NICATION UNIT
20
STORAGE
2A
10
VOICE DETECT-ING UNIT
12
VOICE OUTPUT UNIT
15A
COMMUNICA-TION UNIT
14
LIGHTING UNIT
RESPONCE DEVICE

PTO/AIA/14 (11-15)
Approved for use through 04/30/2017. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SAJVP171US
	Application Number	
Title of Invention	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Tatsumi		Naganuma	

Residence Information (Select One) US Residency ● Non US Residency Active US Military Service

City	Yokohama-shi, Kanagawa	Country of Residence i	JP

Mailing Address of Inventor:

Address 1	c/o Intellectual Property Dept., JVC KENWOOD Corp.		
Address 2	3-12, Moriyacho, Kanagawa-ku		
City	Yokohama-shi, Kanagawa	**State/Province**	
Postal Code	221-0022	**Country** i	JP

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	23623		
Email Address		Add Email	Remove Email

Application Information:

Title of the Invention	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM		
Attorney Docket Number	SAJVP171US	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	6	**Suggested Figure for Publication (if any)**	1

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SAJVP171US
	Application Number	
Title of Invention	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	● Customer Number	US Patent Practitioner	◯ Limited Recognition (37 CFR 11.9)
Customer Number	23623		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SAJVP171US
	Application Number	
Title of Invention	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM	

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)
2018-039754	JP	2018-03-06	4BBC

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SAJVP171US
	Application Number	
Title of Invention	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SAJVP171US
	Application Number	
Title of Invention	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section. Clear

● Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
Person to whom the inventor is obligated to assign.	Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	JVC KENWOOD Corporation		
Mailing Address Information For Applicant:			
Address 1	3-12, Moriyacho, Kanagawa-ku		
Address 2			
City	Yokohama-shi, Kanagawa	**State/Province**	
Country	JP	Postal Code	221-0022
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SAJVP171US
	Application Number	
Title of Invention	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Greg Turocy/			Date (YYYY-MM-DD)	2019-03-04
First Name	Gregory	Last Name	Turocy	Registration Number	36952

Additional Signature may be generated within this form by selecting the Add button. Add

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SAJVP171US
	Application Number	
Title of Invention	VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM	

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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.**

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 the Freedom of Information Act requires disclosure of these records.

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 CooperationTreaty.

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 inspections 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.

COMBINED DECLARATION AND ASSIGNMENT FOR U.S. PATENT APPLICATION USING AN APPLICATION DATA SHEET

DECLARATION

As a below named inventor, I hereby declare that:

I believe I am the original inventor or an original joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Title: VOICE-CONTENT CONTROL DEVICE, VOICE-CONTENT CONTROL METHOD, AND NON-TRANSITORY STORAGE MEDIUM

the application of which is attached hereto unless the following is checked

____ was filed on _____ as United States application Serial No. _____, or as described and claimed in PCT International Application No. _____filed on _____ and amended on _____ (if any).

The above-identified application was made or authorized to be made by me.

Please direct all communications to the following address:

the address associated with Customer Number **23623**, and direct telephone calls to

Gregory Turocy of Amin, Turocy & Watson, LLP at 216-696-8730.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. Section 1001 by fine or imprisonment of not more than five (5) years, or both.

ASSIGNMENT

For good and valuable consideration received of the hereinafter named assignee, receipt of which is hereby acknowledged, the undersigned

Name: Tatsumi NAGANUMA **Residence:** Yokohama-shi, Kanagawa, JAPAN

hereby sell and assign to JVC KENWOOD Corporation, a corporation of Japan, having a business address at 3-12, Moriyacho, Kanagawa-ku, Yokohama-shi, Kanagawa 221-0022 Japan, its successors and assigns, the entire right, title and interest, so far as concerns the United States and the Territories and Possessions thereof and all foreign countries, in and to the inventions titled above for which application for United States Letters Patent is executed by the undersigned on the date below and is being filed concurrently herewith, said application for United States Letters Patent, any and all other applications for Letters Patent on said inventions in countries foreign to the United States, including all divisional, renewal, substitute, continuation, Convention applications, reissue, reexamination, supplemental examination, inter parties review, post grant review, or other procedures thereof for the full term or terms for which the same may be granted based in whole or in part upon said inventions or upon said applications, and any and all Letters Patent and

reissues and extensions of Letters Patent granted for said inventions or upon said applications, and every priority right that is or may be predicated upon or arise from said inventions, said applications and said Letters Patent; said assignee being hereby authorized to file patent applications in any or all countries on any or all said inventions in the name of the undersigned or in the name of said assignee or otherwise as said assignee may deem advisable, under the International Convention or otherwise; the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments being hereby authorized to issue or transfer all said Letters Patent to said assignee in accordance herewith; this assignment being under covenant, not only that full power to make the same is had by the undersigned, but also that such assigned right is not encumbered by any grant, license, or other right heretofore given, and that the undersigned will do all acts reasonably serving to assure that said inventions, patent applications and Letters Patent shall be held and enjoyed by said assignee as fully and entirely as the same could have been held and enjoyed by the undersigned if this assignment had not been made, and particularly to execute and deliver to said assignee all lawful documents including petitions, specifications, oaths, assignments, invention disclaimers, and lawful affidavits in form and substance which may be requested by said assignee, to furnish said assignee with all facts relating to said inventions or the history thereof and any and all documents, photographs, models, samples or other physical exhibits which may be useful for establishing the facts of conception, disclosure and reduction to practice of said inventions, and to testify in any proceedings relating to said inventions, patent applications and Letters Patent.

The undersigned hereby appoint, request, and grant power to the following law firm to insert on this Assignment further identification which may be necessary or desirable in order to comply with the Rules of the U.S. Patent and Trademark Office for recordation of this document, for example, the U.S. Serial No. and filing date.

Amin, Turocy & Watson, LLP, 57th Floor - Key Tower, 127 Public Square, Cleveland, Ohio 44114.

Legal name of inventor: Tatsumi NAGANUMA

Inventor's signature: Tatsumi Naganuma Date: Jan. 25, 2019