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Mail Room Date	Doc code	Doc Description	Pages
10/26/2021	IIFW	Issue Information including classification, examiner, name, claim, renumbering, etc.	3
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11/3/2021	OA.POSTCARD	A courtesy postcard sent by USPTO to users who opt-in for e-Office Action	1
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UTILITY PATENT APPLICATION TRANSMITTAL <i>(Only for new nonprovisional applications under 37 CFR 1.53(b))</i>	Attorney Docket No.	1179.0190 (583-6.5 USCON)
	First Inventor	N. Nahum
	Title	Automation Process Definition for a Natural Language Interface
	Express Mail Label No.	

APPLICATION ELEMENTS See MPEP chapter 600 concerning utility patent application contents.	ADDRESS TO: Commissioner for Patents P.O. Box 1450 Alexandria VA 22313-1450
1. ☒ Fee Transmittal Form. (PTO/SB/17 or equivalent) 2. ☐ Applicant claims small entity status. See 37 CFR 1.27. 3. ☒ Specification. [Total Pages <u>41</u>] Both the claims and abstract must start on a new page (For information on the preferred arrangement, see MPEP § 608.01(a)) 4. ☒ Drawing(s). (35 U.S.C. 113) [Total Sheets <u>14</u>] 5. Inventor's Oath or Declaration. [Total Sheets <u>2</u>] (including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e)) a. ☐ Newly executed (original or copy) b. ☒ A copy from a prior application (37 CFR 1.63(d)) 6. ☒ Application Data Sheet. *See Note below See 37 CFR 1.76 (PTO/AIA/14 or equivalent) 7. ☐ CD-ROM or CD-R. in duplicate, large table or Computer Program (Appendix) ☐ Landscape Table on CD 8. Nucleotide and/or Amino Acid Sequence Submission. (if applicable, items a. – c. are required) a. ☐ Computer Readable Form (CRF) b. ☐ Specification Sequence Listing on: i. ☐ CD-ROM or CD-R (2 copies); or ii. ☐ Paper c. ☐ Statements verifying identity of above copies	ACCOMPANYING APPLICATION PARTS 9. ☐ Assignment Papers. (cover sheet & document(s)) Name of Assignee _____ 10. ☐ 37 CFR 3.73(c) Statement. ☒ Power of Attorney. (when there is an assignee) 11. ☐ English Translation Document. (if applicable) 12. ☐ Information Disclosure Statement. (PTO/SB/08 or PTO-1449) ☐ Copies of citations attached 13. ☐ Preliminary Amendment. 14. ☐ Return Receipt Postcard. (MPEP § 503) (Should be specifically itemized) 15. ☐ Certified Copy of Priority Document(s). (if foreign priority is claimed) 16. ☐ Nonpublication Request. Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent. 17. ☒ Other: Track 1 Request
*Note: (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 must be included in an Application Data Sheet (ADS). (2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).	

18. CORRESPONDENCE ADDRESS				
☒ The address associated with Customer Number: <u>106928</u> OR ☐ Correspondence address below				
Name				
Address				
City		State	Zip Code	
Country		Telephone	Email	
Signature		/Mark I. Koffsky/		Date
Name (Print/Type)		Mark I. Koffsky		Registration No. (Attorney/Agent)
				41906

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

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

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		Automation Process Definition for a Natural Language Interface		
First Named Inventor/Applicant Name:		Nir NAHUM		
Filer:		MARK I KOFFSKY		
Attorney Docket Number:		1179.0190 (583-6.5 USCON)		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	300	300
UTILITY SEARCH FEE	1111	1	660	660
UTILITY EXAMINATION FEE	1311	1	760	760
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1720

Electronic Acknowledgement Receipt	
EFS ID:	40608693
Application Number:	17026305
International Application Number:	
Confirmation Number:	1079
Title of Invention:	Automation Process Definition for a Natural Language Interface
First Named Inventor/Applicant Name:	Nir NAHUM
Customer Number:	106928
Filer:	MARK I KOFFSKY
Filer Authorized By:	
Attorney Docket Number:	1179.0190 (583-6.5 USCON)
Receipt Date:	21-SEP-2020
Filing Date:	
Time Stamp:	00:37:37
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$1720
RAM confirmation Number	E20209K137560989
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	Application Data Sheet	ADS.pdf	1823308	no	9
			250fe419356e09cc7a047a7ac09fbfa621345758		
Warnings:					
Information:					
2	Oath or Declaration filed	dec.pdf	2875853	no	2
			ebd916ba9a6e7fa3ecbf38975a7755b90f735588		
Warnings:					
Information:					
3	Drawings-other than black and white line drawings	Draw.pdf	405400	no	14
			8b95ced879904a8ad9d17309fd0f769a4feb6cfc		
Warnings:					
Information:					
4	Power of Attorney	POA.pdf	1085437	no	2
			dbf04c5ccc55d1f410c6ed1d223861fab51b6e4c		
Warnings:					
Information:					
5		Spec.pdf	266552	yes	41
			4c332829d3af7a7495718c75af02257ce61120e3		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	35	
	Claims		36	40	
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Warnings:					
Information:					
6	Transmittal of New Application	Trans2.pdf	152155	no	1
			8549a38dc09723a509b8fb60452116de5c997c05		
Warnings:					
Information:					
7	Fee Worksheet (SB06)	fee-info.pdf	35003	no	2
			5ab763dae289c84f87a81d0fdc5172cb5d8c5333		
Warnings:					
Information:					
Total Files Size (in bytes):				6643708	
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.					

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	1179.0190 (583-6.5 USCON)
		Application Number	
Title of Invention	Automation Process Definition for a Natural Language Interface		
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	
	Nir		NAHUM		
Residence Information (Select One) US Residency ☒ Non US Residency Active US Military Service					
City	Tel Aviv		Country of Residence ⁱ	IL	
Mailing Address of Inventor:					
Address 1	8 Marcel Janco St.				
Address 2					
City	Tel Aviv		State/Province		
Postal Code	6941320		Country ⁱ	IL	
Inventor	2				Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Shlomi		SASSON		
Residence Information (Select One) US Residency ☒ Non US Residency Active US Military Service					
City	Givat Zeev		Country of Residence ⁱ	IL	
Mailing Address of Inventor:					
Address 1	12/1 Savion St.				
Address 2					
City	Givat Zeev		State/Province		
Postal Code	90917		Country ⁱ	IL	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					
Add					

Correspondence Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1179.0190 (583-6.5 USCON)
		Application Number	
Title of Invention	Automation Process Definition for a Natural Language Interface		

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	106928		
Email Address	patent@koffskyschwalb.com	Add Email	Remove Email
Email Address	mikuspto@gmail.com	Add Email	Remove Email

Application Information:

Title of the Invention	Automation Process Definition for a Natural Language Interface		
Attorney Docket Number	1179.0190 (583-6.5 USCON)	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

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)
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1179.0190 (583-6.5 USCON)
		Application Number	
Title of Invention	Automation Process Definition for a Natural Language Interface		
Customer Number	106928		

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	Pending	Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	16358467	2019-03-19
Prior Application Status	Expired	Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
16358467	Continuation of	PCT/IL2018/051168	2018-11-04
Prior Application Status	Expired	Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
PCT/IL2018/051168	Claims benefit of provisional	62581714	2017-11-05
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

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).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Remove
			Access Code ⁱ (if applicable)
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			Add

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1179.0190 (583-6.5 USCON)
		Application Number	
Title of Invention	Automation Process Definition for a Natural Language Interface		

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	1179.0190 (583-6.5 USCON)
		Application Number	
Title of Invention	Automation Process Definition for a Natural Language Interface		

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	1179.0190 (583-6.5 USCON)
		Application Number	
Title of Invention	Automation Process Definition for a Natural Language Interface		

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	WalkMe LTD.		
Mailing Address Information For Applicant:			
Address 1	3 Kremenetski St.		
Address 2			
City	Tel Aviv	State/Province	
Country	IL	Postal Code	6789903
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	1179.0190 (583-6.5 USCON)
		Application Number	
Title of Invention	Automation Process Definition for a Natural Language Interface		

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	/Mark I. Koffsky/		Date (YYYY-MM-DD)	2020-09-20
First Name	Mark	Last Name	Koffsky	Registration Number
				41906
Additional Signature may be generated within this form by selecting the Add button. Add				

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	1179.0190 (583-6.5 USCON)
		Application Number	
Title of Invention	Automation Process Definition for a Natural Language Interface		

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Privacy Act Statement

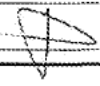
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**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)**

Title of Invention	CHAT-BASED APPLICATION INTERFACE FOR AUTOMATION
As the below named inventor, I hereby declare that: This declaration is directed to: ☒ The attached application, or ☐ United States application or PCT international application number _____ filed on _____ The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. WARNING: Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.	
LEGAL NAME OF INVENTOR	
Inventor: <u>Shlomi SASSON</u> Date (Optional): <u>1/5/19</u>	
Signature: 	
Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.	

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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

**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)**

Title of
Invention

CHAT-BASED APPLICATION INTERFACE FOR AUTOMATION

As the below named inventor, I hereby declare that:

This declaration
is directed to:



The attached application, or



United States application or PCT international application number _____
filed on _____

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

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

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

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Nir NAHUM

Date (Optional): Mar 17, 2019

Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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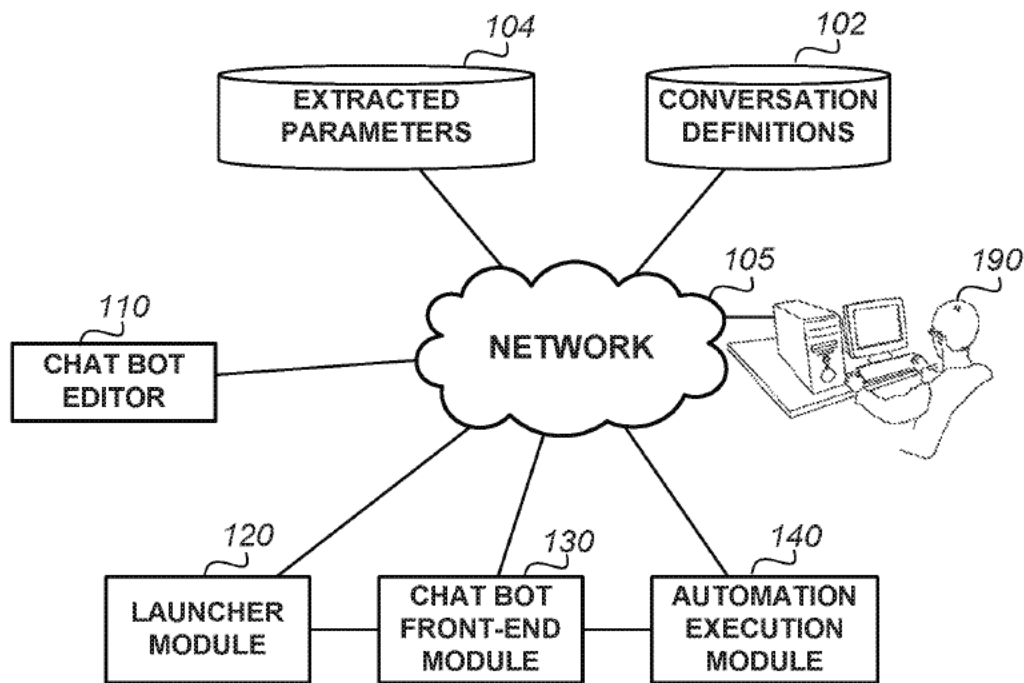


FIG. 1

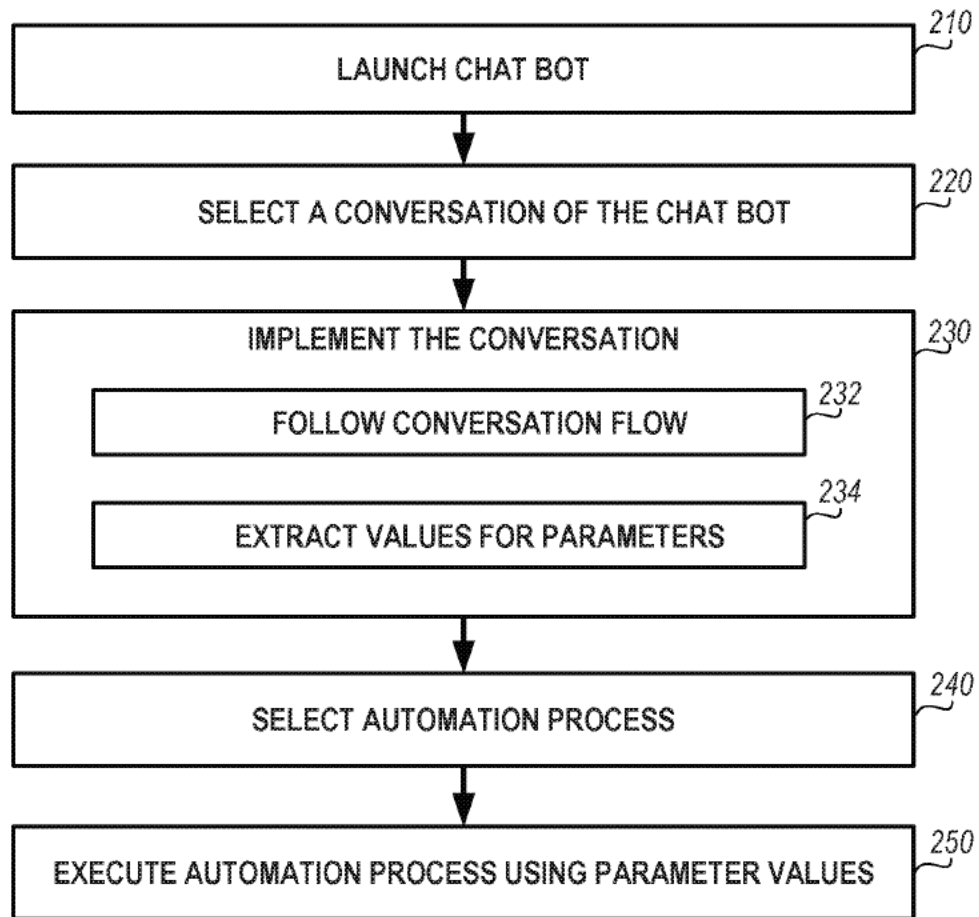


FIG. 2A

3/14

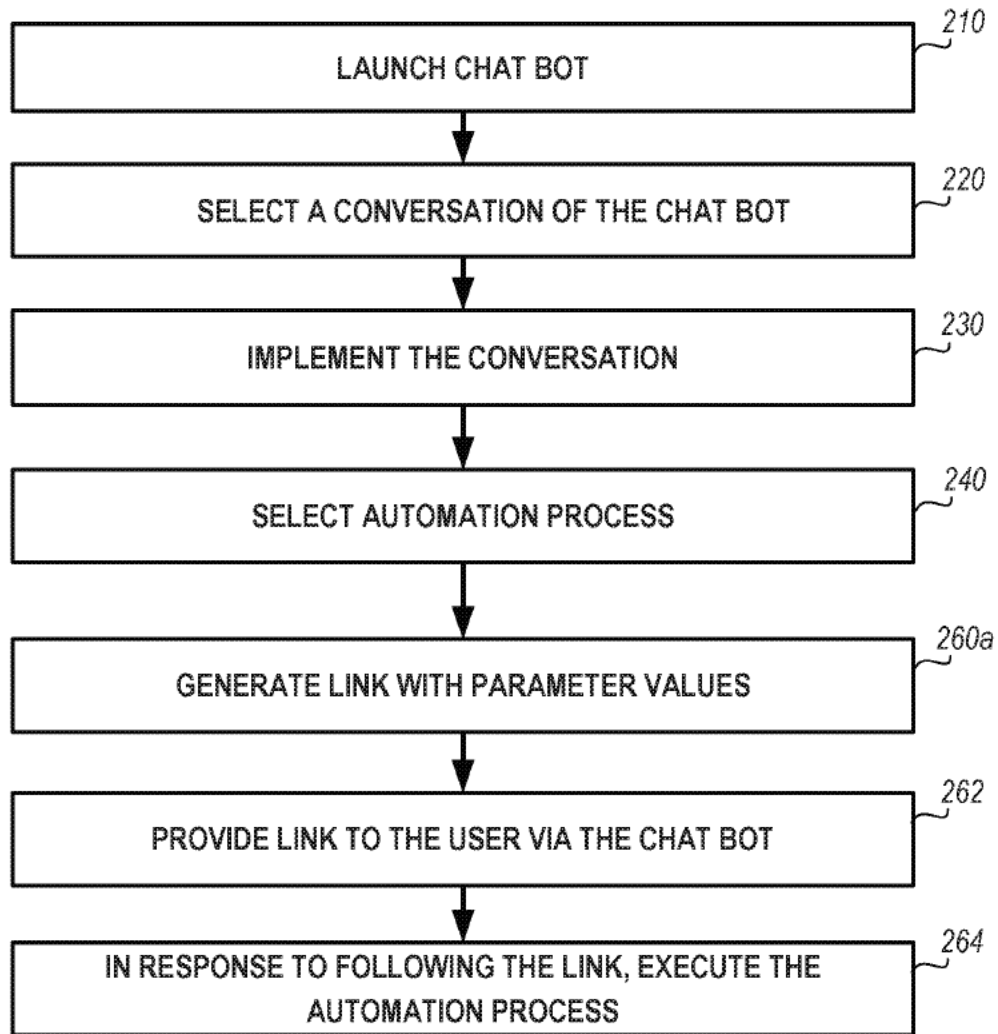


FIG. 2B

4/14

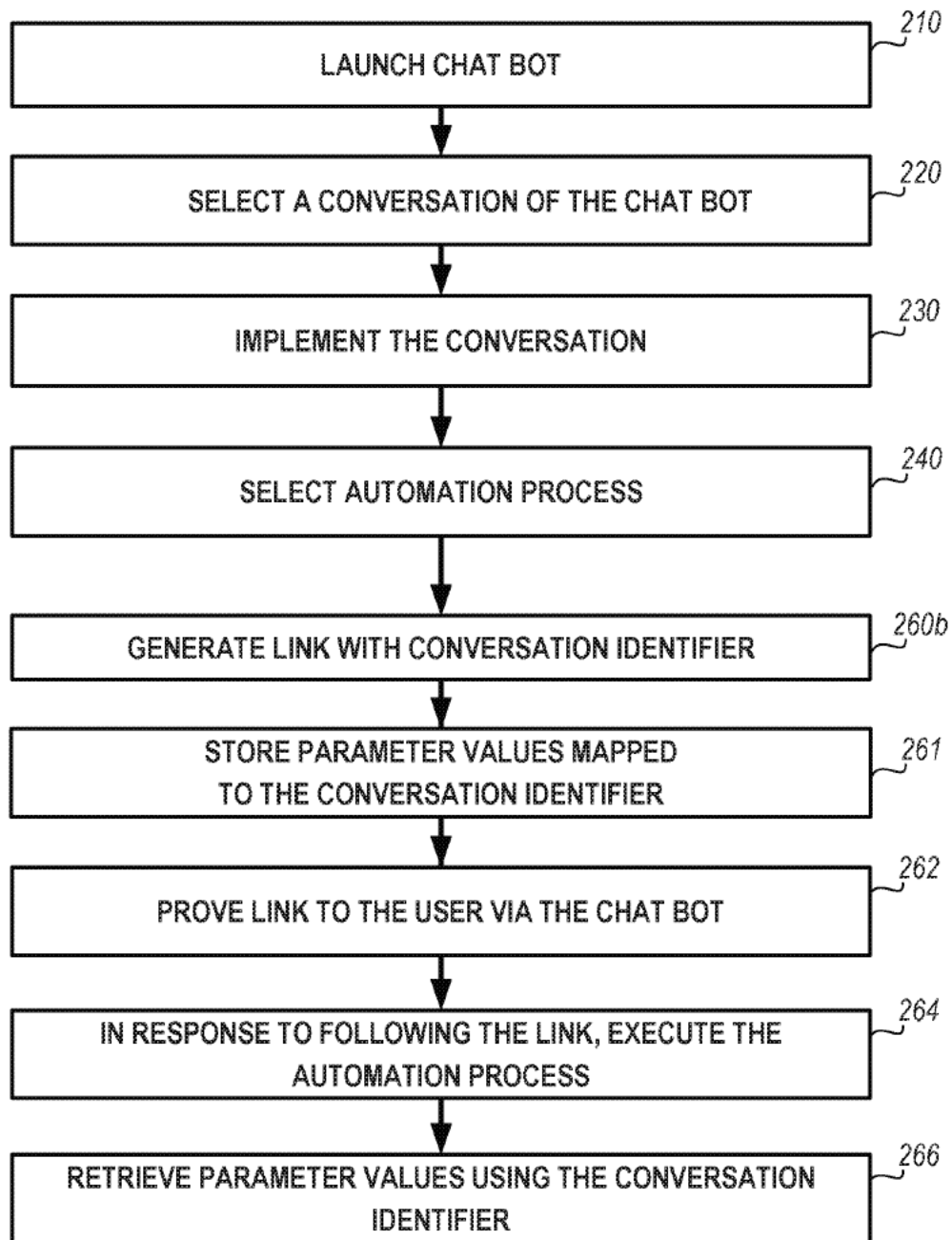


FIG. 2C

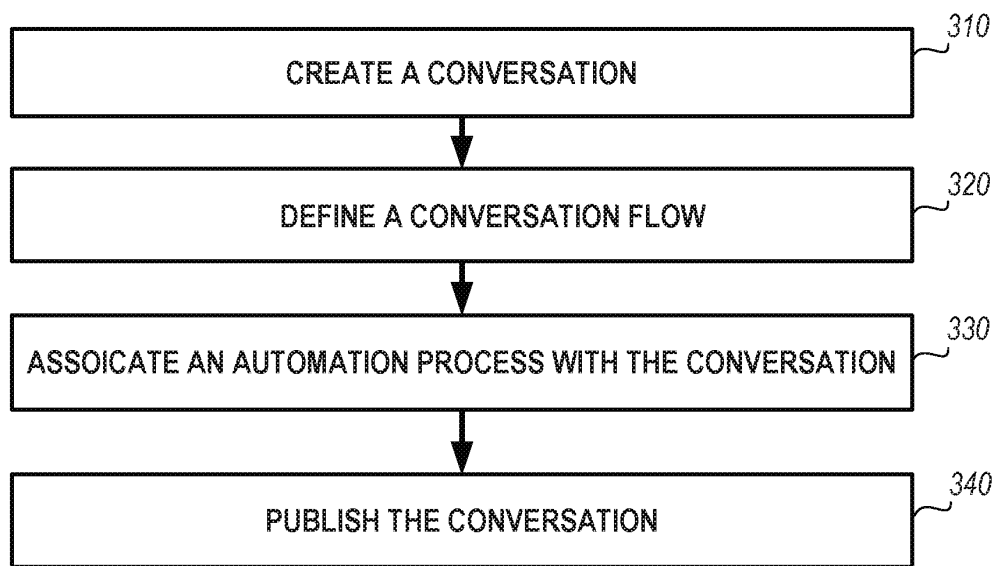


FIG. 3

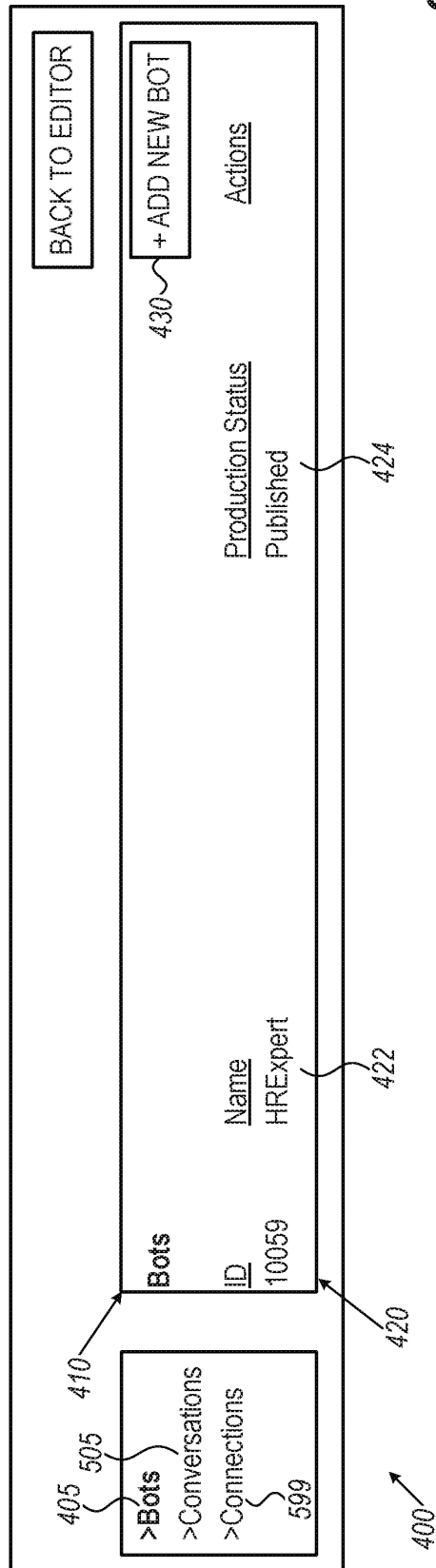


Fig. 4A

← Bots

HRExpert

405 505

>Bots
>Conversations
>Connections
599

440

✓ Bot Settings

* Name

HRExpert 442

* Greeting Messages

Hi! How can I help you today? Please remember I'm a bot. 444

* Assign Conversations (3)

446a 446b 446c 446

Open New Requisition x Add Expenses x Add New Employee x

* Set conversation as suggested

Open New Requisition x Add Expenses x Add New Employee x

Accept Suggested Conversations Only 448

450 ☒

* Message When No Matched Conversations 452

I'm sorry I didn't get your answer, I'm only a bot. Try to be more specific

✓ Launchers

Assign Launchers

ActionBot - 175295 x 454a 454

> Default Text And Messages

> Custom style

460 UNPUBLISH

Fig. 4B

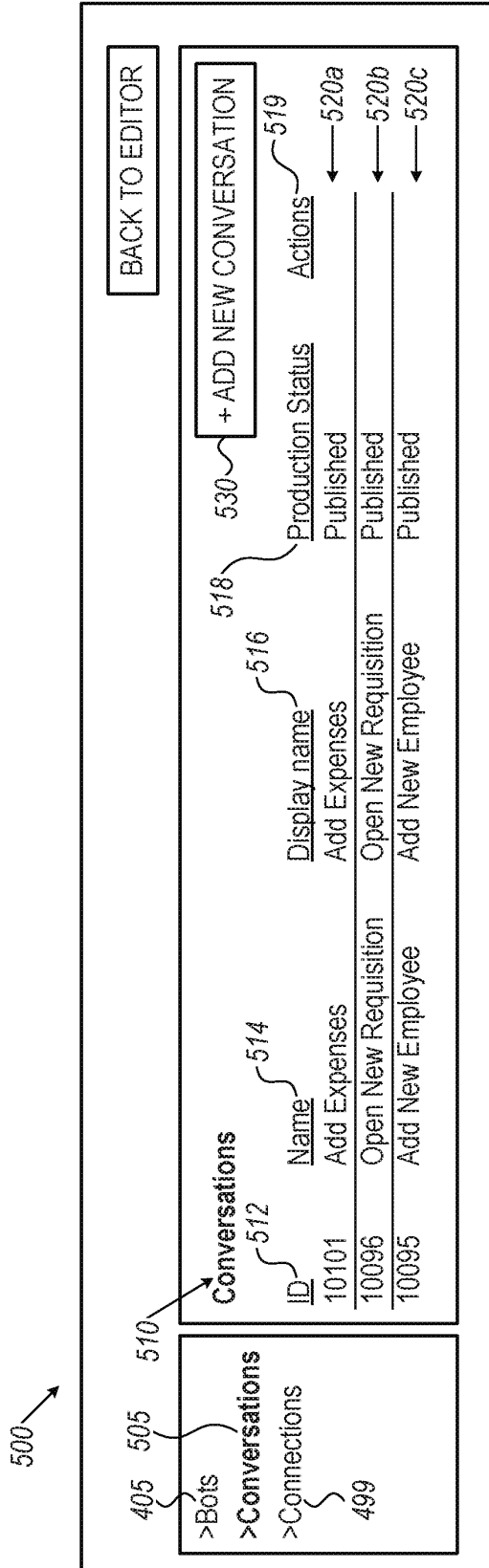


Fig. 5A

9/14

405

505

>Bots

>**Conversations**

>Connections

← Conversations

Add New Employee

599

✓ Conversation Settings

* Name 542

Add New Employee

* Display Name 544

Add New Employee

* Keyword To Search By (Intent)

new x

employee x

new employee x

546

✓ Conversation Flow

ADD MESSAGE 552

ADD QUESTION 554

ADD CONDITION 556

ADD ACTION 558

Type	ID	Name	Next step	Actions
...	10497	Start	Employee ID	550a
?	10498	Employee ID	First Name	550b
?	10500	First Name	Last Name	550c
?	10501	Last Name	Email	550d
?	10512	Email	Business Unit	550e
?	10513	Business Unit	Business Unit = Grand Avenue ?	550f
⚙	10548	Business Unit = Grand Avenue ?		550g
↑			Success step: Add new Employee - Grand Avenue	550h
			Fail step: Add New Employee - Orange Blossom	550i
🔔	10520	Add New Employee - Orange Blossom		
🔔	10547	Add new Employee - Grand Avenue		

550m

UNPUBLISH

Fig. 5B

405

505

>Bots

>Conversations

>Connections

599

← Conversations

Add New Employee – Orange Blossom

* Action Name

Add New Employee – Orange Blossom 560

Smart Walk-Thru

Bot - Add New Employee (1811969) 562 v

Data The Smart Walk – Thru Requires

564a Employee ID v	Name As	\${employeeID} 564b
566a First Name v	Name As	\${firstName} 566b
568a Last Name v	Name As	\${lastName} 568b
Email v	Name As	\${email}
Business Unit v	Name As	\${businessUnit}

+ Add Field

* Delay

572 1000 Milliseconds

574 UPDATE ACTION IN THE CONVERSATION

Fig. 5C

11/14

← Add New Employee

EMPLOYEE ID

>Bots

>Conversations

>Connections

▽ Question Settings

* Question Name

Employee ID 580 ▾

* Question Type

Number 582 ▾

* Question Text

What would be the employee ID? (Please use numbers) 584

Suggestions

586

Accept Suggests Only

588 ☒

* Error Message

I'm sorry I didn't understand, let's try again.

* Delay

Milliseconds

590 UPDATE QUESTION

Fig. 5D

505

>Bots

>Conversations

>Connections

599

← Add New Employee

Business Unit - Grand Avenue

Condition settings

* Condition Name

Business Unit = Grand Avenue ?

592

* Condition builder

Business Unit

▼

equal to

Grand Avenue

▼

And

▼

Recycle bin

Suggested values ▼

+ ADD NEW RULE

596

UPDATE CONDITION IN THE CONVERSATION

598

594

Fig. 5E

13/14

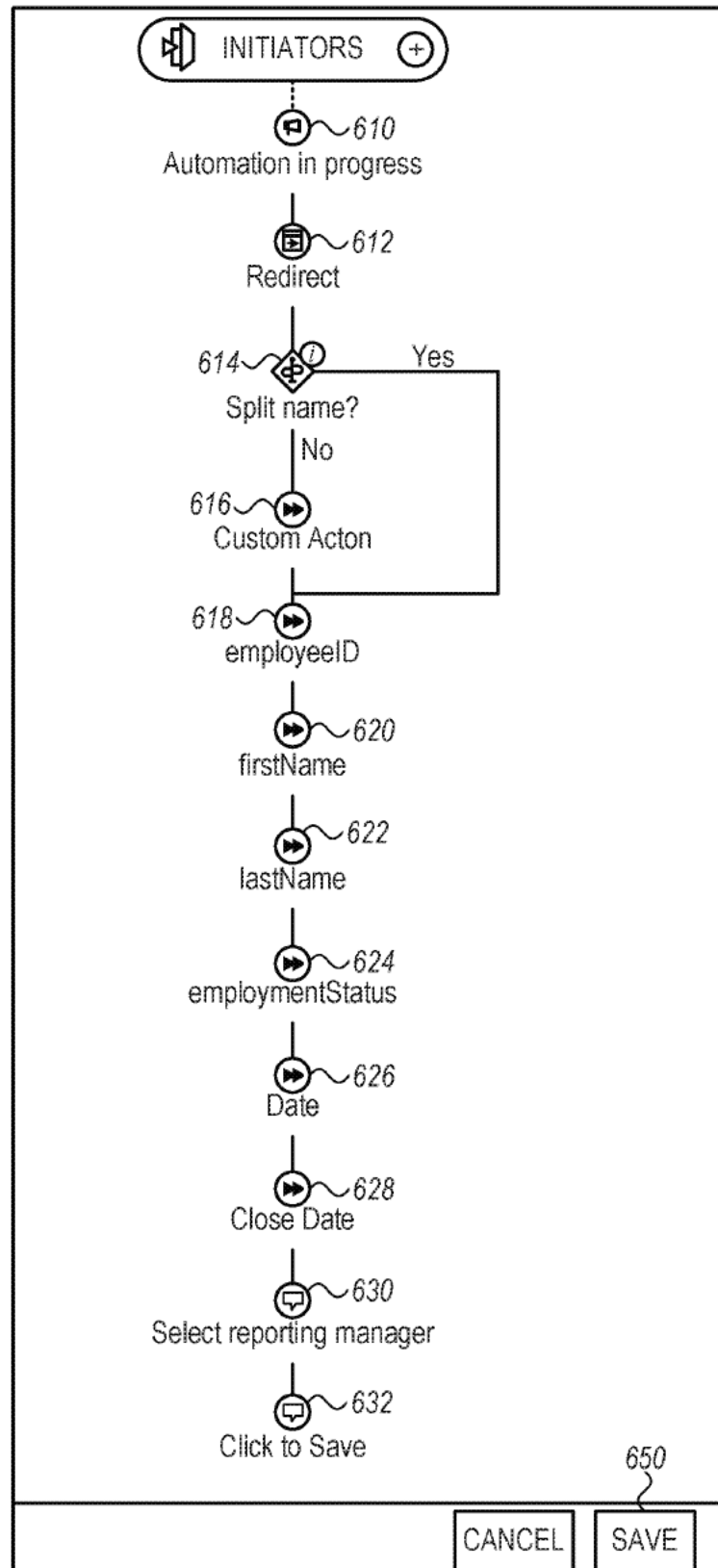


Fig. 6

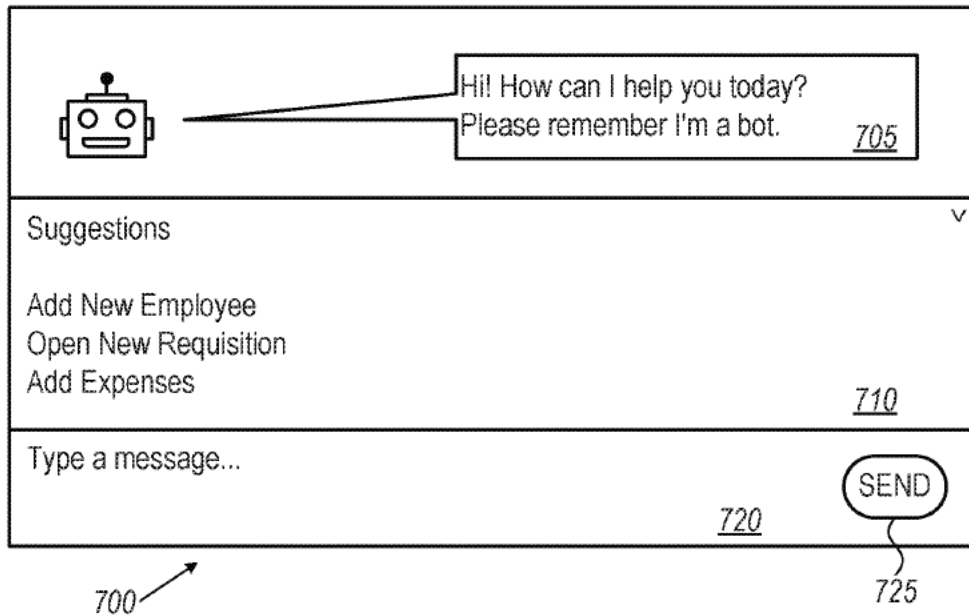


Fig. 7A

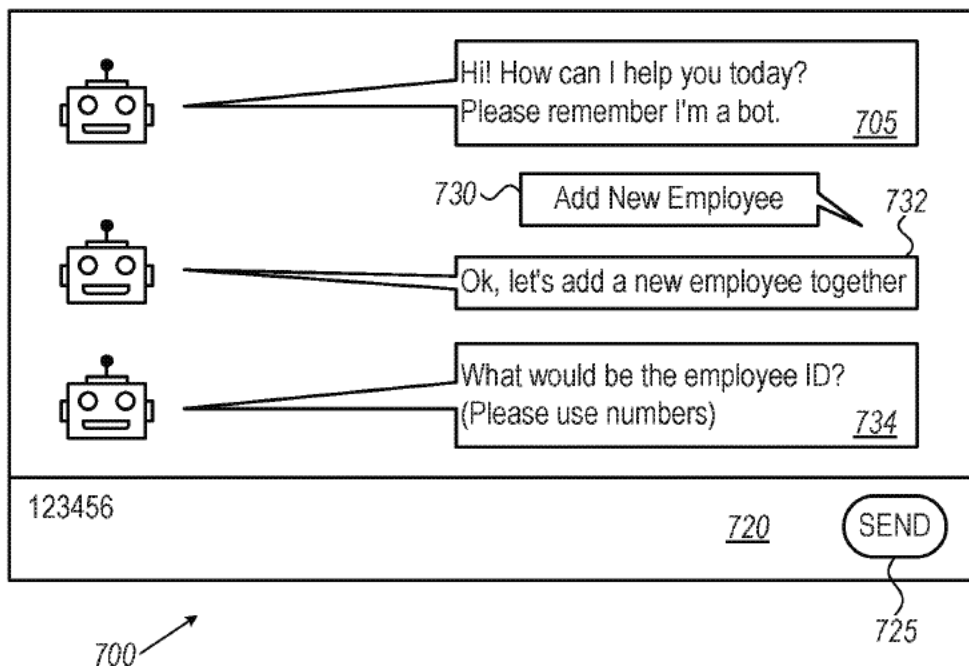


Fig. 7B

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA/82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	Herewith
Filing Date	September 21, 2021
First Named Inventor	Nir Nahum
Title	Automation Process Definition for a Natural Language Interface
Art Unit	TBD
Examiner Name	TBD
Attorney Docket Number	1179.0190 (583-6.5 USCON)

SIGNATURE of Applicant or Patent Practitioner

Signature	/Mark I. Koffsky/	Date (Optional)	
Name	Mark I. Koffsky	Registration Number	41906
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			
NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.			
☐ *Total of _____ forms are submitted.			

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Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 11/30/2014. OMB 0651-0051
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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

106928

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☒ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or Individual Name				
Address				
City	State	Zip		
Country				
Telephone	Email			

I am the Applicant (If the Applicant is a juristic entity, list the Applicant name in the box):

WalkMe LTD.

- ☐ Inventor or Joint Inventor (title not required below)
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- ☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature	Date (Optional)
David Sussely	12/03/2019
Name	
Title	VP Finance

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of forms are submitted.

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

AUTOMATION PROCESS DEFINITION FOR A NATURAL LANGUAGE INTERFACE

CROSS-REFERENCE TO RELATED APPLICATION

5 [0001] This application is a continuation of U.S. Patent Application No. 16/358,467, entitled "CHAT-BASED APPLICATION INTERFACE FOR AUTOMATION", which is a national phase of PCT application No. PCT/IL2018/051168, which claims the benefit of provisional patent application No. 62/581,714 filed November 5, 2017, all of which are hereby incorporated by reference in its entirety without giving rise to disavowment.

10

TECHNICAL FIELD

[0001] The present disclosure relates to user interfaces in computerized system in general, and to user-interfaces for automation processes that utilize chat bots, in particular.

15

BACKGROUND

[0002] A Chat bot is a computer program implementing natural language interface to conduct a conversation via auditory or textual methods with the user. Chat bots are typically used in dialog systems for various practical purposes including customer service or information acquisition. Some chatterbots use sophisticated natural language processing systems, but many simpler systems scan for keywords within the input, then pull a reply with the most matching keywords, or the most similar wording pattern, from a database.

25 [0003] Nowadays, chat bots are starting to appear everywhere. From providing functionality via known communication services, such as FACEBOOK™, TELEGRAM™, or the like, to manipulating Internet of Things (IoT) devices via voice commands, such as using a smart speaker (e.g., GOOGLE HOME™, AMAZON ECHO™, or the like).

30 [0004] Implementing a new functionality via a chat bot may be a complicated task. For example, in the AMAZON ECHO™ ecosystem, developers can develop new "skills" using dedicated Application Programming Interface (API). A new skill for the smart

speaker is a cloud-based service that is programmed to handle requests when invoked by the program of the smart speaker.

BRIEF SUMMARY

[0006] One exemplary embodiment of the disclosed subject matter is a method for defining an automation process to be invoked in response to a conversation of a user with a natural language interface, the method comprising: defining a conversation to be implemented by a natural language interface, wherein the conversation is configured to obtain from the user one or more values to one or more parameters; associating the conversation with the automation process, wherein the automation process is configured to utilize a user interface of a computer program to input data thereto or execute functionality thereof, wherein the automation process is a parameterized automation process depending on the one or more parameters; and publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the parameterized automation process is invoked automatically by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters.

[0007] Optionally, said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process.

[0008] Optionally, the conversation elements comprise at least one of: a message element and a condition element.

[0009] Optionally, the conversation elements comprise a second action element associated with a second automation process, whereby the natural language interface is configured to selectively invoke either the automation process or the second automation process based on interaction with the user.

[0010] Optionally, the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a conversation from the plurality of conversations based on a user intent matching the one or more terms, wherein the user intent is determined based on interaction of the user with the natural language interface.

[0011] Optionally, the natural language interface is implemented by a third-party messaging service, wherein the natural language interface is configured to generate and provide the user with a link, wherein interaction with the link is configured to cause execution of the automation process.

- 5 [0012] Optionally, the link comprises a conversation identifier of a conversation between the user and the natural language interface, wherein the one or more values are configured to be stored in a database by the natural language interface and retrieved, using the conversation identifier, by a client device executing the automation process.

- [0013] Optionally, the link comprises the one or more values, thereby providing the one
10 or more values to the automation process.

- [0014] Another exemplary embodiment of the disclosed subject matter is a computerized apparatus for defining an automation process to be invoked in response to a conversation of a user with a natural language interface, wherein said computerized apparatus comprising a processor and coupled memory, the processor being adapted to
15 perform: defining a conversation to be implemented by a natural language interface, wherein the conversation is configured to obtain from the user one or more values to one or more parameters; associating the conversation with the automation process, wherein the automation process is configured to utilize a user interface of a computer program to input data thereto or execute functionality thereof, wherein the automation process is a
20 parameterized automation process depending on the one or more parameters; and publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the parameterized automation process is invoked automatically by the natural language interface and using one or more values provided
25 by the user to the natural language interface for the one or more parameters.

[0015] Optionally, said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process.

- 30 [0016] Optionally, the conversation elements comprise at least one of: a message element and a condition element.

[0017] Optionally, the conversation elements comprise a second action element associated with a second automation process, whereby the natural language interface is configured to selectively invoke either the automation process or the second automation process based on interaction with the user.

5 [0018] Optionally, the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a conversation from the plurality of conversations based on a user intent matching the one or more terms, wherein the user
10 intent is determined based on interaction of the user with the natural language interface.

[0019] Optionally, the natural language interface is implemented by a third-party messaging service, wherein the natural language interface is configured to generate and provide the user with a link, wherein interaction with the link is configured to cause execution of the automation process.

15 [0020] Optionally, the link comprises a conversation identifier of a conversation between the user and the natural language interface, wherein the one or more values are configured to be stored in a database by the natural language interface and retrieved, using the conversation identifier, by a client device executing the automation process.

[0021] Optionally, the link comprises the one or more values, thereby providing the one
20 or more values to the automation process.

[0022] Yet another exemplary embodiment of the disclosed subject matter is a non-transitory computer readable medium for defining an automation process to be invoked in response to a conversation of a user with a natural language interface, the non-transitory computer readable medium retaining program instructions, which program
25 instructions when read by a processor, cause the processor to perform: defining a conversation to be implemented by a natural language interface, wherein the conversation is configured to obtain from the user one or more values to one or more parameters; associating the conversation with the automation process, wherein the automation process is configured to utilize a user interface of a computer program to input data
30 thereto or execute functionality thereof, wherein the automation process is a parameterized automation process depending on the one or more parameters; and

publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the parameterized automation process is invoked automatically by the natural language interface and using one or more values provided
5 by the user to the natural language interface for the one or more parameters.

[0023] Optionally, said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process.

10 [0024] Optionally, the conversation elements comprise at least one of: a message element and a condition element.

[0025] Optionally, the conversation elements comprise a second action element associated with a second automation process, whereby the natural language interface is configured to selectively invoke either the automation process or the second automation
15 process based on interaction with the user.

[0026] Optionally, the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a conversation from the plurality of
20 conversations based on a user intent matching the one or more terms, wherein the user intent is determined based on interaction of the user with the natural language interface.

[0027] Optionally, the natural language interface is implemented by a third-party messaging service, wherein the natural language interface is configured to generate and provide the user with a link, wherein interaction with the link is configured to cause
25 execution of the automation process.

[0028] Optionally, the link comprises a conversation identifier of a conversation between the user and the natural language interface, wherein the one or more values are configured to be stored in a database by the natural language interface and retrieved, using the conversation identifier, by a client device executing the automation process.

[0029] Optionally, the link comprises the one or more values, thereby providing the one or more values to the automation process.

THE BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0030] The present disclosed subject matter will be understood and appreciated more fully from the following detailed description taken in conjunction with the drawings in which corresponding or like numerals or characters indicate corresponding or like components. Unless indicated otherwise, the drawings provide exemplary embodiments or aspects of the disclosure and do not limit the scope of the disclosure. In the drawings:

[0031] Figure 1 shows an illustration of an environment, in accordance with some exemplary embodiments of the disclosed subject matter;

[0032] Figures 2A-2C show flowcharts of methods, in accordance with some exemplary embodiments of the disclosed subject matter;

[0033] Figure 3 shows a flowchart of a method, in accordance with some exemplary embodiments of the disclosed subject matter;

[0034] Figures 4A-4B show schematic illustrations of user interfaces, in accordance with the disclosed subject matter;

[0035] Figures 5A-5E show schematic illustrations of user interfaces, in accordance with the disclosed subject matter;

[0036] Figure 6 shows a schematic illustration of a user interface, in accordance with the disclosed subject matter; and

[0037] Figures 7A-7B show schematic illustrations of user interfaces, in accordance with the disclosed subject matter.

DETAILED DESCRIPTION

[0038] One technical problem dealt with by the disclosed subject matter is to provide for a user-friendly manner of defining functionality of chat bots. In particular, defining automation processes to be invoked by chat bots, either dedicated chat bots, such as implemented on a target system where the functionality is invoked, or even using third-party services, such as FACEBOOK MESSENGER™ are the communication platform for the chat bot service, which later invokes the automation process itself on the target system.

[0039] The chat bot may be a service that simplifies the end-user experience by collecting data from him and executing a predefined automation flow on the target system. The chat bot may implement a natural language interface, such as a text-based conversation, an oral conversation, or the like. The target system, generally referred to as the computer program, may be a website, a web-based system, a native mobile application (e.g., executed in a protected sandbox), a desktop application (e.g., executed in a process of a non-sandbox-based operating system), or the like. The target system may have a user interface, such as a Graphical User Interface (GUI), that the user may utilize in order to activate the functionalities of the target system.

[0040] As an example, if the user wishes to buy stocks on his bank account, he can use the website of the bank. Alternatively, the user may converse with a chat bot that is provided on the bank's website that is capable of asking her all the relevant information for filling the online stock purchase form and then run a predefined automation on top of the bank's website.

[0041] As yet another example, a third-party messaging service may be used to converse with a chat bot service. For example, SLAKC™ and TELEGRAM™ allow defining chat bot services as users in the chat service. Users can communicate with such non-human users in the same manner they communicate with other human users. For example, the user may chat with a chat bot named "HR Bot" who may provide Human Resources (HR)-related functionality.

[0042] It may be desired to enable defining the chat bots without the need of using dedicated APIs, programming languages, or the like. It may be desired that non-programmers may be able to define the automations that are invoked by the chat bots.

[0043] In some cases, adoption of new software may be a challenge to companies. Enterprises may use many different software tools for different purposes, such as HR, Customer Relation Management (CRM), Finance, Task Management, Project planning, or the like. Integration of a new system into an organization may be a challenge as it may
5 require migrating large amounts of employees to new platforms, requiring that the users be trained in using the new system. A chat bot, on the other hand, may abstract away the actual system. Instead of relying on the user's familiarity with the system, the automation process may be in charge of the actual use of the system. The chat bot may simply extract the user's intention, identify the relevant action to be performed, and extract relevant
10 information to be used as part of the automation process.

[0044] Another technical problem may be to enable defining automation processes in a manner that enables them to be implemented even if changes are performed to the underlying platform. For example, it may be desired that the automation process will continue working even in the face of layout modifications of the front-end of the program
15 or website. In some cases, it may be desired to be able to identify elements selected during the definition of the automation process during execution thereof. The identification may be a non-trivial task if no unique identifier exists, as may be the case in many instances. Still, it may be desired to be able to identify such element correctly so as to apply the actions defined by the automation process.

[0045] One technical solution provided by the disclosed subject matter may be to use a
20 natural language interface to receive input from the user, and based thereon, select an automation process to be executed. The automation process may be executed in a manner that manipulates the GUI of the target system, in a similar manner to the manner in which the user operates. As a result, definition of the automation process may be defined by
25 non-programmers.

[0046] Defining the automation process based on performing actions in the GUI enables the automation process to perform any functionality that the user can perform, without relying on dedicated APIs and without requiring any line of code. The parameters of the conversation, as well as the flow of the automation process, may be defined using a point
30 and click editor, or other user interface that can be used by any non-programmer users.

[0047] In some cases, if the target system is replaced, the same chat bot conversation may be used to gather the relevant information and the automation process that is invoked may be replaced. The underlying system may be abstracted away and the user may use the simple and convenient chat bot service as the only user interface.

5 [0048] Additionally or alternatively, different functionalities may be implemented and there may be no limit to what the chat bot can invoke, except for the limitations of the target system's own capabilities. A novice user may define in a simple manner the parameters of the conversation that the chat bot implements, and the automation process that would be executed based thereon. Using this seemingly simple techniques, a fast and
10 efficient manner of providing chat bot functionalities is enabled.

[0049] In some exemplary embodiments, the chat bot may be implemented on a different system than the target system itself, such as a third-party messaging service. As a result, it may be desired to enable third-party messaging service to invoke the automation process in a simple manner and without relying on coding or on dedicated
15 APIs. In some exemplary embodiments, the chat bot service may generate a link, such as a web link (e.g., a link to a website), a deeplink to a mobile application (e.g., waze:// link to the WAZE™ mobile application), a link to a local desktop agent (e.g., walkme:// link to the WALKME™ desktop agent), or the like. The link may be presented to the user in the messaging service and the user may click the link. In response to the link being
20 clicked, the target system may be opened and the automation process may be executed.

[0050] In some exemplary embodiments, the chat bot may collect information to be used as part of the automation process, such as values to be inputted in input fields, selections to be made in the GUI of the target system, or the like. The information may be provided to the automation process via the link. In some cases, the link may comprise
25 a query string indicating a conversation identifier. The conversation identifier may be a unique identifier of the chat bot session with the user. Before generating the link, the information gathered by the chat bot may be stored in a database with a record whose key is the conversation identifier. After the link is traversed, the conversation identifier is obtained from the query string, and the record is retrieved from the database using the
30 conversation identifier. The collected information itself may be used by the client device when executing the automation process. Additionally or alternatively, the link may

comprise the values of the parameters themselves explicitly in the link, enabling to avoid using a database to indirectly pass the information and instead pass it directly via the link.

[0051] In some exemplary embodiments, a chat bot service may be associated with different conversation flows. Each conversation flow may be associated with one or more automation processes that can be invoked. A non-programmer user may define the association therebetween and define when each conversation flow is selected, and in which conditions, each automation process is invoked.

[0052] An automation process may be a dynamically adaptable tutorial, such as described in U.S. Patent No. 9,922,008, issued Mar. 20, 2018, entitled "Calling Scripts Based Tutorials", which is hereby incorporated by reference in its entirety for all purposes without giving rise to disavowment. The automation process may define a sequence of steps to be performed. In some exemplary embodiments, some steps may be associated with control flow of the sequence, such as a branching step. Additionally or alternatively, some steps may be associated with performing an action on a GUI element, also referred to as widget. Additionally or alternatively, some steps may be associated with a condition that is based on content of a GUI element.

[0053] In some exemplary embodiments, there may be a unique identifier for the widget. For example, a unique id for each element, A Cascading Style Sheet (CSS) selector in a web application, a path to a mobile element, or the like. Selection may be implemented using such unique identifier.

[0054] In some exemplary embodiments, there may not be any unique identifier for the widget. For example, the widget may be a button, having a text label "SET", a color parameter, a length parameter, a height parameter, an associated URL that is activated upon clicking thereon, or the like. None of the parameters may be unique to the widget itself. Still, it may be desired to provide for an identification manner of a widget. Additionally or alternatively, the widget may be modified in the GUI, such as its color may be changed, its text may be modified, it may be enlarged or shrinked and the URL may be switched.

[0055] In some exemplary embodiments, the identification may be performed in a probabilistic manner. Each widget of the same target type appearing in the relevant screen of the GUI may be examined. Each of the parameters used for identifying the widget-of-

interest is compared to the parameter of the examined widget and a similarity score may be computed. The examined widget having the highest similarity score may be determined to be the widget-of-interest. In some exemplary embodiments, in case the highest similarity score is below a predetermined threshold, it may be determined that the widget-of-interest was not located. It is noted that the parameters used for identification of the widget-of-interest may be a subset of the available parameters thereof. Additionally or alternatively, existing parameters in the examined widget that are not part of the parameters of widget-of-interest may reduce the similarity score. Consider, for example, a button widget which does not have a URL to be followed upon click. A button widget that does comprise such URL is less likely to be the same widget-of-interest than another widget that does not have a URL. Additionally or alternatively, the parameters may comprise relative parameters indicating relations to other widgets, such as encapsulated within another element, located in a relative location to another widget, or the like. As the overall layout may expect to remain similar in different version of the target system, such relative parameters may be useful as a hint to indicate whether the examined widget is indeed the widget-of-interest. The relative parameters may refer to other elements, who may be also be identified in a probabilistic manner themselves. Additionally or alternatively, the other elements may be identified using a unique identifier, or using another method.

[0056] One technical effect of the disclosed subject matter may be to provide abstraction of the way users, such as employees in an organization and clients of an enterprise, use different platforms and simplify complicated processes for them with a unified, and simple, conversational-based user interface.

[0057] Another technical effect may be to provide a chat bot designing process that does not require coding or using designated API. This may allow to bypass the requirement of having the target system expose an API for each potential functionality. Instead, the GUI itself, which already exists in the target system, is used as the API-substitute. Exposing an API may be time-consuming task in some cases, but in many cases it may not be feasible as the target system may be owned by a third-party who may not wish to expose an API and who may not wish to allow external automation.

[0058] Yet another technical effect may be to avoid security issues. With API calls, there may be potential security issues, if the API is manipulated. Instead, the disclosed subject matter uses the GUI itself, and the actions may be performed behalf of a logged-in user, under her authority. No additional security issues are created due to the use of the disclosed subject matter, as opposed to potential vulnerabilities that may be introduced when an API is published and made available.

[0059] Yet another technical effect may be enabling abstraction of the interface of the target system. Modifications to the target system's interface may be transparent to the automation process, which may continue to function as before, due to its dynamic capabilities. Additionally or alternatively, even extensive changes in the UI and even replacing the target system altogether may be handled quickly and simply using the disclosed subject matter by modifying the automation process accordingly and adjusting the chat bot to invoke the modified automation process instead of the original one. The conversation itself may still follow the same flow and the user may be unaware of the extensive modifications to the underlying target system.

[0060] The disclosed subject matter may provide for one or more technical improvements over any pre-existing technique and any technique that has previously become routine or conventional in the art.

[0061] Additional technical problem, solution and effects may be apparent to a person of ordinary skill in the art in view of the present disclosure.

[0062] Referring now to Figure 1 showing a computerized environment in accordance with some exemplary embodiments of the disclosed subject matter.

[0063] A Chat Bot Editor 110. Editor 110 may enable a non-programmer user (not shown) to define a flow of conversation for a chat bot. The user may define which questions the bot would ask, which remarks it will make, flow control operations that may be based on evaluated conditions, such as branching operations, or the like. Additionally or alternatively, the user may define for a conversation flow which automation process is invoked thereby and which parameters are passed thereto. Additionally or alternatively, the user may define that a conversation is associated with multiple automation processes, one of which may be selected based on the interaction with the user. Additionally or alternatively, Editor 110 may define several different

conversation for a single chat bot (e.g., HR Bot). The bot may be defined to select the correct conversation to follow based on user input, such as explicit selection, implicit identified intent, or the like.

5 [0064] In some exemplary embodiments, Editor 110 may be configured to store the definitions of the conversation in a database, such as Conversation Definitions 102. Conversation Definitions 102 can be accessed at runtime when the chat bot service is being executed.

[0065] Launcher Module 120 may be configured to provide a launcher widget in the target system. For example, a bot-icon may be presented in a corner of the screen of the
10 GUI. Pressing on the bot-icon may launch the Chat Bot Front-End Module 130.

[0066] Chat Bot Front-End Module 130 may be configured to enable a User 190 to interact with a chat bot. User 190 may converse with the chat bot using natural language, such as using written text in a messenger-like UI, using oral conversation such as by providing oral instructions that may be translated to text using speech-to-text methods,
15 or the like. Chat Bot Front-End Module 130 may be a front-end of the chat bot that may be implemented by a dialog processor service (not shown) that may be executed, for example, by a cloud-based platform. In some exemplary embodiments, the dialog processor service may be a microservice. The dialog processor service may access Conversation Definitions 102 to determine the flow of conversation, to determine which
20 question to ask the user, what to do with the provided answer, match values to parameters, or the like.

[0067] In some exemplary embodiments, Chat Bot Front-End Module 130 may be a front-end of a third-party communication service that enables integration of a chat bot service, such as using a non-human user representing the chat bot.

25 [0068] Upon a determination of an automation process to be invoked, as may be determined by the dialog processor service based on the Conversation Definitions 102 of the executed conversation, an Automation Execution Module 140 may be invoked. Automation Execution Module 140 may be configured to execute, on the client-side, the automation process. In some cases, the automation process may be a dynamically
30 adaptable tutorial that is invoked. Additionally or alternatively, the automation process may be a dynamically adaptable process that is not a tutorial per se, as the process may

not require that each step be shown and explained to the user. In some cases, the process may be performed automatically or semi-automatically. For example, consider a vacation request from an HR bot. The process may be performed automatically to prepare the vacation request by filling a relevant online form. The automation process may request
5 that the user validate the content of the form before its submission, and hence it may require some user assistance.

[0069] In some exemplary embodiments, Automation Execution Module 140 may utilize client-side code for website target systems. For example, a JavaScript library running on the website itself and executed by the browser may be utilized. The JavaScript
10 library may be embedded in the code of the website. Additionally or alternatively, the JavaScript library may be imported into the code of the website. Additionally or alternatively, the JavaScript library may be injected to the HTML code using a browser extension on the fly, to provide a solution that need not cooperation of the owner of the website. The client-side code (e.g., JavaScript library) may have access to read and write
15 the entire HTML code of each web page. Thus, the automation may be able to find elements in the HTML, check their values and manipulate them. The automation may also change the page's URL and create new elements on the page (for example: popup balloons).

[0070] In some exemplary embodiments, Automation Execution Module 140 may
20 utilize a native library which runs in the host application in case of mobile applications. Mobile applications may be executed on a sandboxed-based operating system, such as iOS™ or ANDROID™, where each application is executed in a separate sandbox. A Software Development Kit (SDK) of the native library can be compiled with the host application if the owner of the host application cooperates. Additionally or alternatively,
25 the SDK may be injected from outside, obviating the need cooperation of the owner of the application. In such a case, the cooperation of the User 190 may be required, such as by installing a program for injecting the SDK to the host application. As the SDK is injected to the host application, the automation may access the UI elements of the application and this is able to find elements, check their values and manipulate them.
30 New elements may also be created, as needed, on the fly.

[0071] In some exemplary embodiments, Automation Execution Module 140 may execute automation process on a desktop application that is executed on a non-sandboxed operating system, such as WINDOWS™ or LINUX™. An agent may be installed on the user device. The agent may access other applications, including their UI elements,
5 manipulate such elements and create new elements.

[0072] One or more of the above-mentioned components may be connected to a Network 105, such as intranet, Local Area Network (LAN), the Internet, or the like.

[0073] Referring now to Figure 2A showing a flowchart of a method, in accordance with some exemplary embodiments of the disclosed subject matter.

10 [0074] On Step 210, a chat bot is launched. The chat bot may be launched in response to a user clicking on a launch icon, in response to a user command, in response to a user clicking on a physical button, in response to a vocal command (e.g., "OK Siri", "Hey Google"), or the like. In some exemplary embodiments, the user may launch a third-party communication service, such as WHATSAPP™, TELEGRAM™, SLACK™, or the like,
15 and select to converse with a non-human user, representing a chat bot.

[0075] On Step 220, a conversation of the chat bot is selected. The conversation may be selected based on explicit selection by the user, based on implicit selection inferred from the user's intent, or the like. The chat bot may be associated with a plurality of potential conversations, defined in a definitions database, such as 102 of Figure 1. Based
20 on processing of the user's interaction with the chat bot, such as using Natural Language Processing (NLP) techniques, it may be determined which conversation is the most likely conversation and such a conversation may be suggested to the user for confirmation.

[0076] On Step 230, the conversation may be implemented. The chat bot service may execute the conversation flow by following the flow defined for the conversation (232).
25 The flow may define announcements that the chat bot service would provide to the user. The announcements may appear as part of a conversation that the chat bot provides, either in written or vocal communication, depending on the modality of the chat bot. The announcements may be fixed and predetermined. Additionally or alternatively, the announcements may be parameterized and be modified based on previous answers by the
30 user, previous messages provided by the user, based on user-related data, contextual information, or the like. The flow may define conditions for evaluation and branching

instructions or other control flow instructions that rely on the evaluated value. The flow may define questions configured to extract information from the human user (234). The questions may define a name of a parameter to which the information would be assigned and a type and/or a domain thereof (e.g., text, text matching a predetermined pattern, an integer, an integer within a range, or the like). The values of the parameters may be utilized for setting values of parameters in a parameterized automation process, thereby adjusting the parameterized automation process based on the answers of the user. The adjustment may comprise causing the automation process to input user-defined values to input texts, select different elements, set different conditions, or the like.

10 [0077] On Step 240, an automation process may be selected. The automation process may be selected based on the flow of the conversation. In some exemplary embodiments, a conversation may be associated with several automation processes that are selected based on the user's interaction with the chat bot. Additionally or alternatively, the conversation may be associated with a single conversation that is selected upon reaching
15 the end of the flow of the conversation.

[0078] On Step 250, the automation process may be executed. In some exemplary embodiments, the automation process may be a parameterized automation process that is executed using the values of the parameters obtained during the conversation session (e.g., Step 234). The automation process may be executed on the client device. In some
20 exemplary embodiments, the user may a-priori install a computer program product on her client device, such as a desktop agent, a browser extension, or the like, to enable execution of automation processes for target programs and systems that do provide direct support for the disclosed subject matter. Additionally or alternatively, in case of a target program that is supported by the disclosed subject matter, such as a website already
25 having embedded therein the relevant client-side code, no installation of an additional client-side program may be required.

[0079] The automation process may be defined by a user of an editor, such as system operator. The definitions of the automation process may be stored in a database and retrieved on the client-side for execution. The automation may be a flow that comprises
30 steps in a predefined order. The flow may comprise control flow steps, such as branching

steps that depend on conditions. After a step is executed, a succeeding step in the flow may be executed.

[0080] In some exemplary embodiments, the following actions can be defined in the editor and will then cause the corresponding steps to occur in an automation:

- 5 [0081] A split step may comprise a parameter of type "Rules". Upon execution of the split step, the parameter of the steps may be evaluated. If the rule is evaluated to true, a true branch is traversed to reach to a next step (e.g. "then step"). If the rule is evaluated to false, a false branch is traversed to reach to a different step (e.g., "else step").

- [0082] A redirect to a URL step may comprise a String parameter named URL and a
10 Boolean parameter named "Don't redirect if URL is identical". If the "Don't redirect if URL is identical" parameter is false or if the current URL of the browser does not equal the URL parameter, the browser is redirected to the URL parameter.

- [0083] Clicking on screen elements step may comprise an element description of the element-of-interest. The element-of-interest may be identified in the GUI, such as based
15 on a unique identifier, based on a probabilistic method, or the like. The automation process interacts with the element-of-interest and simulates a click action thereon. As an example, the element-of-interest may be a clickable object, a button, or the like.

- [0084] Hovering on screen elements step may comprise an element-of-interest. The element-of-interest may be identified in the GUI, such as based on a unique identifier,
20 based on a probabilistic method, or the like. The automation process interacts with the element-of-interest and simulates a mouse hover event over the element-of-interest. As an example, the element-of-interest may be a menu element, an element having a tooltip, or the like.

- [0085] Focusing on screen elements step may comprise an element-of-interest. The
25 element-of-interest may be identified in the GUI, such as based on a unique identifier, based on a probabilistic method, or the like. The automation process interacts with the element-of-interest and simulates an element focus event for the element-of-interest. For example, the element-of-interest may be a text input field which may be manipulated to receive focus, enabling the inputting of texts thereto.

[0086] Select list value of on-screen elements step may comprise an element-of-interest and a String value. The element-of-interest may be identified in the GUI, such as based on a unique identifier, based on a probabilistic method, or the like. The automation process interacts with the element-of-interest and simulates a selection of the value from the list defined in the element-of-interest.

[0087] Filling an input field step may comprise an element-of-interest, a String text, a parameter name, or the like. The value to be inputted to the element-of-interest can be a fixed value (the String text parameter). Additionally or alternatively, the value may be retrieved from a parameter, whose value is set during the conversation. The name of the parameter may be provided as a parameter to the step (e.g., parameter name). The element-of-interest may be identified in the GUI, such as based on a unique identifier, based on a probabilistic method, or the like. The automation process interacts with the element-of-interest and simulates a user filling input to the element-of-interest, either a fixed value or a value of the parameter.

[0088] Prompting the user step. The automation process may prompt the user, such as using a popup, a balloon, a tooltip, or the like. As an example, if the user is required to enter her password, this step may be used. The step may comprise a String variable named "prompt text" providing the content of the prompt itself, a parameter defining a type of prompt, or the like. In some exemplary embodiments, the step may comprise an element-to-bound which may be used as an anchor point to which the prompt is tied. The element-to-bound may be identified in the GUI, such as based on a unique identifier, based on a probabilistic method, or the like.

[0089] Wait for a predefined time step may comprise an integer variable named "seconds". The step may be executed by starting a timer for the number of seconds defined in the step. After the time elapses, the automation process continues execution.

[0090] Wait for a condition step may comprise a wait condition provided in the form of a variable of type "Rules". For example, a wait step may be defined to wait for an on-screen element to appear.

[0091] Show a message step may be a step for presenting a message to the user. The message may be used for indicating, for example, success of the automation. A message content may be defined for the message step.

[0092] Variables of type "Rules" may comprise one or more Boolean statements that are connected using logical operators, such as OR, AND, XOR, IFF, or the like. The disclosed subject matter may support a plurality of statements. Non-limiting examples are described: an on screen element exists, does not exist, visible, hidden, or the like; a statement regarding a text label of an on screen element (e.g., String conditions such as contains, length, or the like); a statement regarding a text of the current URL (e.g., String conditions such as contains, length, substring, etc.); checking values of in-app variables; checking an in-app storage value (e.g., cookies, etc.); checking browser type; checking operating system type; checking current date/time; or the like.

10 [0093] Referring now to Figure 2B showing a flowchart of a method, in accordance with some exemplary embodiments of the disclosed subject matter.

[0094] In Figure 2B, a chat bot implemented using a third-party platform is utilized. The chat bot conversation is performed in the user interface of the platform, which may not have a configurable interface, let alone one that does not require programming and using of APIs, to the target system.

[0095] On Step 260a, after the automation process to be executed is selected (240), a link is generated. The link comprises all the information needed for the automation process. For example, if the automation process is a parameterized automation process, the link may comprise the values of the parameters. In some exemplary embodiments, the link may comprise a query string indicating the values of each parameter of the parameterized automation process. Additionally or alternatively, the link may be defined to invoke a GET HTTP request, a POST HTTP request, or the like, to pass the values of the parameters to the invoked location. As an example, a link for an automation process in the mobile application WAZE™ may be:

25 waze://?automationFlowId=123¶m1=abc¶m2=def, defining the values of two parameters (param1, param2).

[0096] On Step 262, the link is provided to the user via the chat bot session. As an example, the chat bot may provide a message stating: "Click here and I'll do what you asked: [URL]", where URL is replaced with the generated link.

[0097] On Step 264, after the user clicked on the link, the automation process may be executed. In case of a parameterized automation process, the values of the parameters may be retrieved from the link.

5 [0098] In some exemplary embodiments, the invocation of the automation process in a desktop application may comprise a link in Uniform Resource Identifier (URI) scheme to the local desktop agent may be provided. After the link is traversed, the local desktop agent may launch the target desktop application. If the agent determines that the target desktop application is already operating, it may avoid re-launching it.

10 [0099] Referring now to Figure 2C showing a flowchart of a method, in accordance with some exemplary embodiments of the disclosed subject matter.

[0100] On Step 260b, a link with a conversation identifier may be generated. Similarly to the link of Step 260a, the link provides the values of the parameters. However, instead of explicitly providing the values in the link, a unique conversation session identifier is allocated and used to identify the conversation session. Consider again the example of
15 the WAZE™ mobile application, the link may be: waze://?conversationResultId=123, wherein the conversationResultId is the conversation session identifier.

[0101] On Step 261, the values of the parameters, as determined during the implementation of the conversation based on the user's responses (Step 230), are stored in a database accessible from the target system. The parameters are stored in a record
20 retrievable using the conversation session identifier (e.g., conversationResultId).

[0102] On Step 266, the parameters values may be retrieved from the record using the conversation session identifier. In some exemplary embodiments, after retrieval thereof, the record may be deleted and the unique session identifier may be released to be reused for other sessions. Additionally or alternatively, the client device may store in its local
25 storage the information retrieved from the server.

[0103] Referring now to Figure 3 showing a flowchart of a method, in accordance with some exemplary embodiments of the disclosed subject matter.

[0104] On Step 310, a new conversation is created. The new conversation is to be defined by the administrator user. Additionally or alternatively, the conversation may be
30 an existing conversation that is being updated. In some exemplary embodiments, the

conversation may have a name, keywords useful for matching user's response to the conversation, or the like.

[0105] On Step 320, a conversation flow may be defined. The conversation flow may define the announcements of the chat bot, the questions the chat bot asks, the parameters
5 that the chat bot asks for and attempts to retrieve from the user's responses, which may be provided in natural language, the control flow conditions on the conversation flow and the like.

[0106] On Step 330, one or more automation processes may be associated with the conversation. The user may define, for example, using a click-and-point GUI, which
10 automation process would be invoked and when, with respect to the conversation flow. Conversation flows having branch operations may be associated with more than a single automation process. Additionally or alternatively, a plurality of automation processes may be performed sequentially (either immediately one after the other, or with intermediate questions therebetween).

[0107] On Step 340, the conversation may be published and made available to be
15 implemented by a chat bot service. In some exemplary embodiments, the publication may assign the conversation to a specific bot. For example, HR Bot may be assigned several conversations that are different from those of a CRM Bot.

[0108] Referring now to Figure 4A showing a schematic illustration of a user interface,
20 in accordance with the disclosed subject matter.

[0109] Screen 400 exemplifies a bot editor GUI. Bots 405 is selected and in Bots Pane
410, all defined bots are listed. Bot 420 is named HRExpert (422), has an assigned identifier and is already active (Published Status 424). Bot 420 may be edited, modified, or made unpublished. Additionally or alternatively, a new bot may be defined using the
25 Add Button 430.

[0110] A published bot may be accessible via a launcher defined to be able to launch it. In some exemplary embodiments, the publication is implemented by updating a database to cause the launcher to be able to launch the bot. Additionally or alternatively, publication through third-party platforms may include creation of a non-human user and
30 assigning conversation therewith to be processed by a chat bot conversation microprocess

that is configured to access a database to determine parameters of the conversations of the bot. The publication may include updating the databases accordingly. In some exemplary embodiments, a publication of a bot may comprise publishing all (previously unpublished) conversations used by the bot.

5 [0111] Referring now to Figure 4B showing a schematic illustration of a user interface, in accordance with the disclosed subject matter.

[0112] In Bot Details Editor 440, the details of Bot 420 of Figure 4A are shown. Name 442 may be modified to a user-defined name. A Greeting Message 444 of Bot 420 may also be defined. A set of Conversations 446 that Bot 420 can implemented are selected.
10 The user may add or remove conversations. Currently, Conversations 446 comprise three different conversations: Open New Requisition (446a), Add Expanses (446b), and Add New Employee (446c). In some cases, Bot 420 may indicate, upon activation, suggested conversations, and such conversations are indicated in List 448. Additionally or alternatively, Toggle 450 may be turned on to indicate that the conversations are only
15 selected from a list and are not inferred from the user's intent as determined from conversation in natural language. An Error Message 452 is defined in case no conversation can be matched.

[0113] In some exemplary embodiments, a list of Launchers 454, such as Launcher 454a, indicate launchers that are defined to launch Bot 420. Additionally or alternatively,
20 Launchers 454 may also include a launcher representing a non-human-user in a platform, such as a SLACK™ user representing the HR Bot, Bot 420.

[0114] Modifications to the bot may be saved or discarded. In some cases, the user may decide to make a bot unavailable for use of the users, using Unpublish Button 460.

[0115] Referring now to Figure 5A showing a schematic illustration of a user interface,
25 in accordance with the disclosed subject matter.

[0116] Screen 500 exemplifies a conversation editor GUI, after Conversations widget 505 is selected. Conversations Pane 510 lists existing conversations (520a, 520b, 520c), indicating for each their identifier, name, display name, production status (512, 514, 516, 518). In some exemplary embodiments, actions of each conversation may be listed under
30 an Actions Column 519. Each conversation may be edited, modified, made unpublished,

or the like. Additionally, or alternatively, a new conversation may be defined using the Add Button 530.

[0117] Conversations 520a, 520b, 520c are available through Bot 420, as is illustrated in Conversations 446 in Figure 4B. However, some conversations may be made available
5 by other bots. Additionally or alternatively, the same conversation may be made available by several different bots.

[0118] A conversation that is made published may be updated in a database that provides the information of the conversation for implementation by bots that are determined to be able to perform said conversation.

10 [0119] Referring now to Figure 5B showing a schematic illustration of a user interface, in accordance with the disclosed subject matter.

[0120] In Conversation Details Editor 540, the details of Conversation 520c of Figure 5A are shown. Name 542 and Display Name 544 may be modified to user-defined names. Keywords Field 546 lists keywords that may be used to match the conversation to the
15 user. In some exemplary embodiments, the user's intent may be extracted from her input, that is provided in natural language. Matching the terms, directly or indirectly, to the terms in Keywords Field 546 may indicate an intent of the user, which may be used to select Conversation 420c for implementation. In the illustrated example, the terms are "new", "employee" and "new employee" (546a, 546b, 546c).

20 [0121] In some exemplary embodiments, a conversation flow may be defined by the user, using the GUI and without requiring coding capabilities or API invocations. The user may add new steps to Conversation 420c using Buttons 552, 554, 556, 558. Add Message Button 552 may be configured to add a message step, in which a message to be provided by the chat bot to the user is defined. The definition may be explicit (e.g., fixed
25 text). Additionally, or alternatively, the definition may provide leeway for the chat bot to personalize and implement based on the user's information and the context of the conversation. Add Question Button 554 may be configured to add a question step, in which the chat bot may attempt to retrieve information from the user. The question step may define the type of input to be gathered and a name of a parameter for referring to the
30 user-provided value thereof. Add Condition Button 556 may be configured to add a condition step, in which a condition is evaluated and two alternative flows are selected

based thereon. The user may define the condition, as well as the selected next steps for each possibility. Add Action Button 558 may be configured to add an action step, in which an automation process is executed. The user may define how to execute a parameterized automation process and may match the parameters provided during the conversation with the parameters to be provided to the automation process. In some cases, the user may also define how environment variables, user-associated data, or other available data sources not gathered by the natural language interface of the chat bot, may be used as parameters of the parameterized automation process.

[0122] Step 550a may be a message step, in which the bot acknowledges that the conversation commences and tells the user that the bot would assist her in adding a new employee to the system. The step indicates a next step, which may be selected from a dropdown list of the steps already defined for Conversation 520c.

[0123] Step 550b may be a question step, in which the bot attempt to obtain an employee identifier of the new employee. Similarly, Steps 550c, 550d, 550e, 550f are questions steps in which the name of the employee, email address and his business unit are obtained from the user.

[0124] Step 550g, which may be defined as the step following Step 550f, may be a condition step. The condition step may define a condition to be evaluated and based thereon the flow could continue in different paths. In case the condition is true, a success-next step is used (defined as Step 550i in the illustrated example). In case the condition is evaluated to false, a fail-next step is followed (defined in the illustrated example as Step 550h).

[0125] Steps 550h and 550i are action steps in which an automation process is executed. In the illustrated example, the conversation could end in an execution of one of two automation processes. However, it is noted that a conversation may be configured to end in a specific (single) automation process. Additionally or alternatively, in some cases, a conversation may execute a plurality of automation processes in sequence, one after the other. In such a case, after a first automation process is executed, a second phase of questions may be implemented before executing the second automation process. In some embodiments, the second automation process may be executed directly after the first automation process finishes, and without intervening steps in between.

[0126] Referring now to Figure 5C showing a schematic illustration of a user interface, in accordance with the disclosed subject matter. Figure 5C illustrates an editor of an action step for Action Step 550h of Figure 5B.

[0127] The action step editor enables modification to the various parameters of the action step. The name of the action step may be provided in Step Name Field 560. The user may select an automation process in Automation Selector 562. Selector 562 may enable selection from existing automation processes created by the user, or by other users. The automation process may be a dynamically adaptable tutorial, such as described in U.S. Patent No. 9,922,008, issued Mar. 20, 2018, entitled "Calling Scripts Based Tutorials". The illustrated embodiment refers to the automation processes as Smart Walk-Thru. However, it is noted that the automation process may be completely automatic, a semi-automatic process requiring user's validation, or a walkthrough illustrating for the user how the GUI of the target system can be used to perform the action on a step-by-step basis.

[0128] In some exemplary embodiments, the automation process may be a parameterized automation process that can be provided with values to its parameters. In some exemplary embodiments, parameter values may be mandatory. The user may associate parameters gathered by the conversation (e.g., by Question Step 550b, 550c, 550d, 550e of Figure 5B). Additionally, or alternatively, the user may associate parameters available to the chat bot, such as based on the user credentials, environment variables, or the like.

[0129] In some exemplary embodiments, Parameter 564a may be selected to refer to Employee ID, gathered by Question Step 550b of Figure 5B. Parameter 564a may be matched to Automation Parameter 564b, `${employeeID}`. As another example, Parameter 566a may be selected to refer to First Name, gathered by Question Step 550c of Figure 5B. Parameter 566a may be matched to Automation Parameter 566b, `${firstName}`. As yet another example, Parameter 568a may be selected to refer to Last Name, gathered by Question Step 550d of Figure 5B. Parameter 568a may be matched to Automation Parameter 568b, `${lastName}`. In some exemplary embodiments, the user may select an automation parameter from a list instead of or in addition to identifying the parameter using its explicit name, as is exemplified by the illustrated embodiment.

[0130] Add Field Button 570 may be configured to add a new matching entry for matching an additional parameter to another automation parameter.

[0131] In some exemplary embodiments, the user may define Delay 572, indicating a delay after the step is evaluated and before it is executed. This may be useful for ensuring the user is able to see the end of the conversation in the chat bot user interface.

[0132] In some exemplary embodiments, Update Button 574 may be configured to update the action based on the user's input in the illustrated screen.

[0133] Referring now to Figure 5D showing a schematic illustration of a user interface, in accordance with the disclosed subject matter. Figure 5D illustrates an editor of a question step for Question Step 550b of Figure 5B.

[0134] The name of the question step, used for the designer of the conversation, may be provided in Step Name Field 580. The text of the question – either fixed or modifiable based on the conversation's context – may be defined in Text Field 584.

[0135] In some exemplary embodiments, the type of variable to be obtained may be defined in Type Field 582. In some exemplary embodiments, the type may be an integer, a real number, a string, a date, or the like. The designer may define any type of variable, may define a domain thereof, may define constraints on the allowed values, such as using conditions, domains, excluded patterns, acceptable patterns, or the like.

[0136] In some exemplary embodiments, suggested values may be defined using Suggestions List 586. The suggestions may be fixed values, values determined based on the context of the conversation, information associated with the user conversing with the chat bot, or the like.

[0137] Additionally or alternatively, Toggle 588 may be turned on to indicate that the values of the answer can only be selected from Suggestions List 586. If Toggle 588 is turned off, other values may be acceptable as well. In some exemplary embodiments, constraints on acceptable values may be defined using conditions, domains, patterns, or the like.

[0138] Upon completing of designing the question, Update Question Button 590 may be pressed to save the new definitions.

[0139] Referring now to Figure 5E showing a schematic illustration of a user interface, in accordance with the disclosed subject matter. Figure 5E illustrates an editor of a condition step for Condition Step 550g of Figure 5B.

5 [0140] A Step Name Field 592 may be used to define a name of the condition step by the designer.

[0141] Condition Builder 594 pane may enable the designer to construct a complex condition. Atomic rules on parameters, such as values obtained during question steps, may be evaluated. As is exemplified in the figure, a rule which examines the value of Business Unit (extracted in Step 550f) is defined. The rule determines whether the value
10 is equal to a fixed value. Additionally or alternatively, other operators can be used instead of "equal to". Additionally or alternatively, the comparison may be with a value of another parameter, a string created based thereon, such as a substring thereof or application of a pattern thereon, or the like. Additional rules may be defined and they may be used to create a complex condition, comprised of logical evaluation of several
15 rules, connected by logical operators such as AND, OR, XOR, NOT, or the like.

[0142] Button 598 may be used to update the condition step in the conversation.

[0143] In some exemplary embodiments, Connections 599 may be used to retrieve field information from external systems, such as for example, SALESFORCE™. As an example, the SALESFORCE™ platform may comprise a field that contains the list of
20 countries. The chat bot may be enabled to retrieve this list and allow the user to select a value from the list. In some exemplary embodiments, Connections 599 may be used as an alternative to manually creating a copy of the same information in definitions of the conversation of the chat bot. Connections 599 may also enable automatically synchronizing potential values to be inputted via the natural language user interface with
25 values of lists, fields, sets, enumerators, or the like, that are already maintained and potentially updated from time to time, in a third-party platforms already used by the organization.

[0144] Referring now to Figure 6 showing a schematic illustration of a user interface, in accordance with the disclosed subject matter. Figure 6 illustrates an editor of an
30 automation process. The automation process may be presented in a similar manner to the manner showing a flow of a conversation, or vice versa. In some exemplary

embodiments, the automation process may be defined exclusively for being performed by a bot. Additionally or alternatively, the automation process may be defined also as for tutorial purposes. The same automation process may be modified and be used for dual purposes – walkthrough and bot-operation. Walkthrough messages to the user and call
5 for actions may be matched by automatic rules for performing the action using parameters provided by the chat bot. In some exemplary embodiments, a parameterized automation process may be defined. If a value of a parameter of the automation process is not provided to the entity implementing the automation process, a default callout message may be provided and the user may be asked to provide the information by herself. Hence,
10 the default callout message may be the message used by the tutorial as a call for action for the user.

[0145] Step 610 may be a message step, providing a message to the user, such as a message indicating an automation is in progress.

[0146] Step 612 may be a page redirect step, where a browser is redirected to a URL.

15 [0147] Step 614 may be a condition step, where a condition is evaluated. Based on the value of the condition, a "YES" branch or a "NO" branch may be taken. As an example, if a "NO" branch is taken, an additional step, Step 616, may be performed to set the state of the browser at a desired state (which was examined in Step 614).

[0148] Steps 618, 620, 622 may be used to input employee identifier, first name and
20 last name, respectively. The GUI of the target system, such as the HTML pages used by the website to allow the user to interact with the web-based system, may be manipulated to input the information gathered by the chat bot and associated with automation parameters (e.g., in Figure 5C).

[0149] Steps 624, 626, 628 may input additional information, such as defined
25 automatically based on current context, based on user information, or the like. In some exemplary embodiments, the additional information may be predetermined and fixed. For example, "employmentStatus" may be set of "Employee" as the automation process is that of adding a new employee.

[0150] Step 630 may select a reporting manager for the new employee from a list of
30 potential managers. The selection may be made based on user provided input in the

conversation, based on automatically determined operation during the automation, or the like.

[0151] On Step 632, a save button in the GUI of the target system may be pressed to save the newly inputted information.

- 5 [0152] Save Button 650 may be pressed to save any updated made to the automation process, such as adding new steps, modifying existing steps, removing steps, changing order in the steps, or the like.

[0153] Additional manners of defining and updating an automation process are described in U.S. Patent No. 9,922,008, issued Mar. 20, 2018, entitled "Calling Scripts
10 Based Tutorials".

[0154] Referring now to Figure 7A showing a schematic illustration of a user interface, in accordance with the disclosed subject matter.

[0155] Screen 700 shows a user interface of the user with a chat bot. The chat bot may have already been launched using a launcher (not shown), such as a button on the button-
15 right corner of the screen. The bot may provide a greeting message upon launching (Message 705). The greeting message may be based on the definition of the chat bot (e.g., 444 of Figure 4A).

[0156] The user may converse with the chat bot using a chat-like interface. A message in free text may be entered into Text Field 720 and provided upon the user pressing enter
20 or the Send Button 725. Additionally or alternatively, speech to text may be employed to analyze speech of the user and generate a text string based thereon. The text string may be entered to Text Field 720 and inputted (e.g., Send Button 725 may be pressed).

[0157] Additionally or alternatively, the user may select a conversation from suggested conversations of the bot (710). The user may select the conversation by pressing it or by
25 stating in the Text Field 720 the name of the conversation.

[0158] Referring now to Figure 7B, where the user indicated in Message 730 that she wants to add a new employee. The chat bot may start to implemented the conversation flow of the selected conversation. For example, the flow shown in Editor 540 of Figure 5B. A Message 732 is shown as an outcome of Step 550a, then the chat bot follows Step

550b and attempts to obtain from the user an employee id (Message 732). The user may reply using Text Field 720 and indicate an identifier (123456).

[0159] The present invention may be a system, a method, and/or a computer program product. The computer program product may include a computer readable storage medium (or media) having computer readable program instructions thereon for causing a processor to carry out aspects of the present invention.

[0160] The computer readable storage medium can be a tangible device that can retain and store instructions for use by an instruction execution device. The computer readable storage medium may be, for example, but is not limited to, an electronic storage device, a magnetic storage device, an optical storage device, an electromagnetic storage device, a semiconductor storage device, or any suitable combination of the foregoing. A non-exhaustive list of more specific examples of the computer readable storage medium includes the following: a portable computer diskette, a hard disk, a random access memory (RAM), a read-only memory (ROM), an erasable programmable read-only memory (EPROM or Flash memory), a static random access memory (SRAM), a portable compact disc read-only memory (CD-ROM), a digital versatile disk (DVD), a memory stick, a floppy disk, a mechanically encoded device such as punch-cards or raised structures in a groove having instructions recorded thereon, and any suitable combination of the foregoing. A computer readable storage medium, as used herein, is not to be construed as being transitory signals per se, such as radio waves or other freely propagating electromagnetic waves, electromagnetic waves propagating through a waveguide or other transmission media (e.g., light pulses passing through a fiber-optic cable), or electrical signals transmitted through a wire.

[0161] Computer readable program instructions described herein can be downloaded to respective computing/processing devices from a computer readable storage medium or to an external computer or external storage device via a network, for example, the Internet, a local area network, a wide area network and/or a wireless network. The network may comprise copper transmission cables, optical transmission fibers, wireless transmission, routers, firewalls, switches, gateway computers and/or edge servers. A network adapter card or network interface in each computing/processing device receives computer readable program instructions from the network and forwards the computer

readable program instructions for storage in a computer readable storage medium within the respective computing/processing device.

[0162] Computer readable program instructions for carrying out operations of the present invention may be assembler instructions, instruction-set-architecture (ISA) instructions, machine instructions, machine dependent instructions, microcode, firmware instructions, state-setting data, or either source code or object code written in any combination of one or more programming languages, including an object oriented programming language such as Smalltalk, C++ or the like, and conventional procedural programming languages, such as the "C" programming language or similar programming languages. The computer readable program instructions may execute entirely on the user's computer, partly on the user's computer, as a stand-alone software package, partly on the user's computer and partly on a remote computer or entirely on the remote computer or server. In the latter scenario, the remote computer may be connected to the user's computer through any type of network, including a local area network (LAN) or a wide area network (WAN), or the connection may be made to an external computer (for example, through the Internet using an Internet Service Provider). In some embodiments, electronic circuitry including, for example, programmable logic circuitry, field-programmable gate arrays (FPGA), or programmable logic arrays (PLA) may execute the computer readable program instructions by utilizing state information of the computer readable program instructions to personalize the electronic circuitry, in order to perform aspects of the present invention.

[0163] Aspects of the present invention are described herein with reference to flowchart illustrations and/or block diagrams of methods, apparatus (systems), and computer program products according to embodiments of the invention. It will be understood that each block of the flowchart illustrations and/or block diagrams, and combinations of blocks in the flowchart illustrations and/or block diagrams, can be implemented by computer readable program instructions.

[0164] These computer readable program instructions may be provided to a processor of a general purpose computer, special purpose computer, or other programmable data processing apparatus to produce a machine, such that the instructions, which execute via the processor of the computer or other programmable data processing apparatus, create

means for implementing the functions/acts specified in the flowchart and/or block diagram block or blocks. These computer readable program instructions may also be stored in a computer readable storage medium that can direct a computer, a programmable data processing apparatus, and/or other devices to function in a particular manner, such that the computer readable storage medium having instructions stored therein comprises an article of manufacture including instructions which implement aspects of the function/act specified in the flowchart and/or block diagram block or blocks.

[0165] The computer readable program instructions may also be loaded onto a computer, other programmable data processing apparatus, or other device to cause a series of operational steps to be performed on the computer, other programmable apparatus or other device to produce a computer implemented process, such that the instructions which execute on the computer, other programmable apparatus, or other device implement the functions/acts specified in the flowchart and/or block diagram block or blocks.

[0166] The flowchart and block diagrams in the Figures illustrate the architecture, functionality, and operation of possible implementations of systems, methods, and computer program products according to various embodiments of the present invention. In this regard, each block in the flowchart or block diagrams may represent a module, segment, or portion of instructions, which comprises one or more executable instructions for implementing the specified logical function(s). In some alternative implementations, the functions noted in the block may occur out of the order noted in the figures. For example, two blocks shown in succession may, in fact, be executed substantially concurrently, or the blocks may sometimes be executed in the reverse order, depending upon the functionality involved. It will also be noted that each block of the block diagrams and/or flowchart illustration, and combinations of blocks in the block diagrams and/or flowchart illustration, can be implemented by special purpose hardware-based systems that perform the specified functions or acts or carry out combinations of special purpose hardware and computer instructions.

[0167] The terminology used herein is for the purpose of describing particular embodiments only and is not intended to be limiting of the invention. As used herein, the

singular forms "a", "an" and "the" are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will be further understood that the terms "comprises" and/or "comprising," when used in this specification, specify the presence of stated features, integers, steps, operations, elements, and/or components, but do not
5 preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and/or groups thereof.

[0168] The corresponding structures, materials, acts, and equivalents of all means or step plus function elements in the claims below are intended to include any structure, material, or act for performing the function in combination with other claimed elements
10 as specifically claimed. The description of the present invention has been presented for purposes of illustration and description, but is not intended to be exhaustive or limited to the invention in the form disclosed. Many modifications and variations will be apparent to those of ordinary skill in the art without departing from the scope and spirit of the invention. The embodiment was chosen and described in order to best explain the
15 principles of the invention and the practical application, and to enable others of ordinary skill in the art to understand the invention for various embodiments with various modifications as are suited to the particular use contemplated.

CLAIMS

What is claimed is:

1. A method for defining an automation process to be invoked in response to a conversation of a user with a natural language interface, the method comprising:
 - 5 defining a conversation to be implemented by a natural language interface, wherein the conversation is configured to obtain from the user one or more values to one or more parameters;
 - associating the conversation with the automation process, wherein the automation process is configured to utilize a user interface of a computer program to input data thereto or execute functionality thereof, wherein the automation process is a parameterized automation process depending on the one or more parameters; and
 - 10 publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the parameterized automation process is invoked automatically by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters.
2. The method of Claim 1, wherein said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process.
3. The method of Claim 2, wherein the conversation elements comprise at least one of:
 - 20 a message element and a condition element.
4. The method of Claim 2, wherein the conversation elements comprise a second action element associated with a second automation process, whereby the natural language interface is configured to selectively invoke either the automation process or the second automation process based on interaction with the user.

5. The method of Claim 1, wherein the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a
5 conversation from the plurality of conversations based on a user intent matching the one or more terms, wherein the user intent is determined based on interaction of the user with the natural language interface.
6. The method of Claim 1, wherein the natural language interface is implemented by a third-party messaging service, wherein the natural language interface is configured
10 to generate and provide the user with a link, wherein interaction with the link is configured to cause execution of the automation process.
7. The method of Claim 6, wherein the link comprises a conversation identifier of a conversation between the user and the natural language interface, wherein the one or more values are configured to be stored in a database by the natural language
15 interface and retrieved, using the conversation identifier, by a client device executing the automation process.
8. The method of Claim 6, wherein the link comprises the one or more values, thereby providing the one or more values to the automation process.
- 20 9. A computerized apparatus for defining an automation process to be invoked in response to a conversation of a user with a natural language interface, wherein said computerized apparatus comprising a processor and coupled memory, the processor being adapted to perform:
defining a conversation to be implemented by a natural language interface,
25 wherein the conversation is configured to obtain from the user one or more values to one or more parameters;
associating the conversation with the automation process, wherein the automation process is configured to utilize a user interface of a computer program to input data thereto or execute functionality thereof, wherein the automation

process is a parameterized automation process depending on the one or more parameters; and

publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the parameterized automation process is invoked automatically by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters.

10. The computerized apparatus of Claim 9, wherein said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process.
11. The computerized apparatus of Claim 10, wherein the conversation elements comprise at least one of: a message element and a condition element.
12. The computerized apparatus of Claim 10, wherein the conversation elements comprise a second action element associated with a second automation process, whereby the natural language interface is configured to selectively invoke either the automation process or the second automation process based on interaction with the user.
13. The computerized apparatus of Claim 9, wherein the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a conversation from the plurality of conversations based on a user intent matching the one or more terms, wherein the user intent is determined based on interaction of the user with the natural language interface.
14. The computerized apparatus of Claim 9, wherein the natural language interface is implemented by a third-party messaging service, wherein the natural language

interface is configured to generate and provide the user with a link, wherein interaction with the link is configured to cause execution of the automation process.

15. The computerized apparatus of Claim 14, wherein the link comprises a conversation identifier of a conversation between the user and the natural language interface,
5 wherein the one or more values are configured to be stored in a database by the natural language interface and retrieved, using the conversation identifier, by a client device executing the automation process.

16. The computerized apparatus of Claim 14, wherein the link comprises the one or more values, thereby providing the one or more values to the automation process.

10 17. A non-transitory computer readable medium for defining an automation process to be invoked in response to a conversation of a user with a natural language interface, the non-transitory computer readable medium retaining program instructions, which program instructions when read by a processor, cause the processor to perform:

15 defining a conversation to be implemented by a natural language interface, wherein the conversation is configured to obtain from the user one or more values to one or more parameters;

associating the conversation with the automation process, wherein the automation process is configured to utilize a user interface of a computer program to input data thereto or execute functionality thereof, wherein the automation
20 process is a parameterized automation process depending on the one or more parameters; and

publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the parameterized
25 automation process is invoked automatically by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters.

18. The non-transitory computer readable medium of Claim 17, wherein said defining comprises determining a conversation flow, wherein the conversation flow defines
30 an order between conversation elements, wherein the conversation elements

comprise at least a question element and an action element, wherein the action element is associated with automation process.

19. The non-transitory computer readable medium of Claim 17, wherein the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a conversation from the plurality of conversations based on a user intent matching the one or more terms, wherein the user intent is determined based on interaction of the user with the natural language interface.
20. The non-transitory computer readable medium of Claim 17, wherein the natural language interface is implemented by a third-party messaging service, wherein the natural language interface is configured to generate and provide the user with a link, wherein interaction with the link is configured to cause execution of the automation process.

15

ABSTRACT

A method, apparatus and product for defining an automation process to be invoked in response to a conversation of a user with a natural language interface. A conversation that is configured to obtain from a user values for parameters and is implemented by a natural language interface is defined. The conversation is associated with the automation process that is configured to utilize a user interface of a computer program to input data thereto or execute functionality thereof. The automation process is a parameterized automation process depending on parameters. The conversation is published to be made accessible to a user via the natural language interface.

SCORE Placeholder Sheet for IFW Content

Application Number: 17026305

Document Date: 09/21/2020

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

- Drawing

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	TOT CLAIMS	IND CLAIMS
17/026,305	09/21/2020		1720	1179.0190 (583-6.5 USCON)	20	3

CONFIRMATION NO. 1079

FILING RECEIPT



0000000120233645

106928
Koffsky Schwalb LLC
349 Fifth Avenue
Suite 733
New York, NY 10016

Date Mailed: 09/29/2020

Receipt is acknowledged of this non-provisional utility 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 FIRST INVENTOR, 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 corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction 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 provided that the request is grantable.

Inventor(s)

Nir NAHUM, Tel Aviv, ISRAEL;
Shlomi SASSON, Givat Zeev, ISRAEL;

Applicant(s)

WalkMe LTD., Tel Aviv, ISRAEL;

Power of Attorney: The patent practitioners associated with Customer Number 106928

Domestic Priority data as claimed by applicant

This application is a CON of 16/358,467 03/19/2019
which is a CON of PCT/IL2018/051168 11/04/2018
which claims benefit of 62/581,714 11/05/2017

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

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.

If Required, Foreign Filing License Granted: 09/28/2020

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 17/026,305**

Projected Publication Date: 01/07/2021

Non-Publication Request: No

Early Publication Request: No

Title

Automation Process Definition for a Natural Language Interface

Preliminary Class

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

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 17/026,305				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300			
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A	660			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760			
TOTAL CLAIMS (37 CFR 1.16(i))	20	minus 20 = *				x 100 =	0.00			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3	minus 3 = *				x 460 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1720			
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		x	=
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
					TOTAL ADD'L FEE				TOTAL ADD'L FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		x	=
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
					TOTAL ADD'L FEE				TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.										



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/026,305	09/21/2020	Nir NAHUM	1179.0190 (583-6.5 USCON)

CONFIRMATION NO. 1079

PUBLICATION NOTICE



OC000000122505637

106928
Koffsky Schwalb LLC
349 Fifth Avenue
Suite 733
New York, NY 10016

Title:Automation Process Definition for a Natural Language Interface

Publication No.US-2021-0006517-A1

Publication Date:01/07/2021

NOTICE OF PUBLICATION OF APPLICATION

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

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/026,305	09/21/2020	Nir NAHUM	1179.0190 (583-6.5 USCON)	1079
106928	7590	06/09/2021	EXAMINER SHIBEROU, MAHELET	
Koffsky Schwalb LLC 500 Seventh Avenue 8th Floor New York, NY 10018			ART UNIT 2171	PAPER NUMBER
			NOTIFICATION DATE 06/09/2021	DELIVERY MODE ELECTRONIC

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

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

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

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DETAILED ACTION

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.
2. This Application is responsive to Application filed on 9/21/2020. Claims 1-20 are pending in the case.

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.

3. **Claims 1-20** are rejected under 35 U.S.C. 103 as being unpatentable over Balasubramanian et al. US 2018/0107461 A1 in view of Periorellis et al. (US 2018/0090141 A1, hereinafter Periorellis).

As to independent **claim 1**, Balasubramanian teaches a method for defining an automation process to be invoked in response to a conversation of a user with a natural language interface ("a user can utilize the workflow development system to build a bot, such that a completed workflow comprises the bot logic. The user is enabled to build the bot as a series of connected steps (e.g., triggers and actions) that can be retrieved on behalf of the user by the workflow development system and graphically represented within the GUI thereof. Once the steps are included within the workflow under development, the user may configure various parameters (e.g. input parameters) of each workflow step and then save the workflow for subsequent execution" paragraph 0037), the method comprising:

defining a conversation to be implemented by a natural language, wherein the conversation is configured to obtain from the user one or more values to one or more parameters ("The plurality of workflow steps include at least one workflow step of receiving a message directed to a bot (e.g., "when a bot receives a message", "wait for a response") or sending a message on behalf of the bot (e.g., "send to conversation"). The plurality of workflow steps also include at least one workflow step of invoking an application to perform an action in response to receiving the message directed to the bot or to receive information upon which the sending of the message on behalf of the bot will be based" paragraph 0136);

associating the conversation with the automation process, wherein the automation process is configured to utilize a user interface of a computer program to input data thereto or execute functionality thereof ("the at least one workflow step of invoking the application to perform the action in response to receiving the message

directed to the bot comprises invoking the application to perform one of the following in response to receiving the message directed to the bot: sending an e-mail, sending a push notification, copying or moving a file, creating or update an entry in a database or spreadsheet, saving a document or file to a library, posting content to a social network, adding an event to a calendar, adding a task to a to do list, obtaining financial data, obtaining news content, obtaining a weather report, or conducting an internet search” paragraph 0141, 0006); and

publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the parameterized automation process is invoked automatically by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters (Bot Framework, developed and published, paragraph 0047; “invoking the application to perform one of the following in response to receiving the message directed to the bot” pragraph 0141).

Balasubramanian expressly teaches in response to receiving the message directed to the bot creating or update an entry in a database or spreadsheet, adding an event to a calendar, adding a task to a to do list. However, Balasubramanian does not appear to expressly teach wherein the automation process is a parameterized automation process depending on the one or more parameters; obtain from the user one or more values to one or more parameters and whereby the parameterized automation process is invoked automatically by the natural language interface and

using one or more values provided by the user to the natural language interface for the one or more parameters.

Periorellis teaches wherein the automation process is a parameterized automation process depending on the one or more parameters; and obtain from the user one or more values to one or more parameters (“The dialog bot is trying to get all data slots filled to process the user’s request. Since not all slots, such as toppings, size and address, are filled yet, the bot is trying to get this information from the user”) paragraph 0039; “the cab bot wants to fill his data slots, such as car type, start address and destination address” paragraph 0059, 0072, fig. 5B).

Accordingly, it would have been obvious to a person of ordinary skill in the art before the effective filing date of the claimed invention to modify the method of Balasubramanian to comprise wherein the automation process is a parameterized automation process depending on the one or more parameters; and obtain from the user one or more values to one or more parameters One would have been motivated to provide enhanced interaction between a user and the chatBot.

As to dependent **claim 2**, Balasubramanian teaches the method of Claim 1, Balasubramanian further teaches wherein said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process (“The plurality of workflow steps includes at least one workflow step of receiving a message directed to a bot or sending a message on behalf of the bot and at least one

workflow step of invoking an application to perform an action in response to receiving the message directed to the bot or to receive information upon which the sending of the message on behalf of the bot will be based. The workflow development system also receives constructed workflow information that indicates each of the user-selected workflow steps included in the workflow, any input parameter values associated therewith, and a sequencing thereof and generates workflow logic based on the received constructed workflow information, the workflow logic being executable in a runtime environment to run the workflow” paragraph 0006).

As to dependent **claim 3**, Balasubramanian further teaches the method of Claim 2, wherein the conversation elements comprise at least one of:

a message element and a condition element (“In the example of FIG. 9, workflow step 902 is a conditional step” paragraph 0068).

As to dependent **claim 4**, Balasubramanian teaches the method of Claim 2, Balasubramanian further teaches wherein the conversation elements comprise a second action element associated with a second automation process, whereby the natural language interface is configured to selectively invoke either the automation process or the second automation process based on interaction with the user (“As shown in FIG. 17, the user has selected first set of actions 1608 to include a step “prompt for email address” (represented by interactive object 1702) that causes the user to be prompted for their email address by sending the text “Please enter your email address” to the conversation identified by the Conversation ID” paragraph 0126).

As to dependent **claim 5**, Balasubramanian teaches the method of Claim 1, Balasubramanian further teaches wherein the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a conversation from the plurality of conversations based on a user intent matching the one or more terms, wherein the user intent is determined based on interaction of the user with the natural language interface ("a workflow step for receiving a response to a request may be pre-configured in terms of how to parse the response for desired response data. As yet another example, a workflow step for receiving a message directed to a bot may be pre-configured in terms of how to parse the message and any message-related data appended thereto to obtain information necessary for proper handling of the message" paragraph 0066).

As to dependent **claim 6**, Balasubramanian teaches the method of Claim 1, Balasubramanian further teaches wherein the natural language interface is implemented by a third-party messaging service("Network-based applications 324A and 324B may each be any type of network-accessible applications or services, such as database applications, social networking applications, messaging applications..." paragraph 0045), wherein the natural language interface is configured to generate and provide the user with a link, wherein interaction with the link is configured to cause execution of the automation process ("when a bot receives a message" are

represented, collectively, as user-interactive objects 1516: Channel ID, Conversation ID, Conversation Name, From ID, From Name, Is Group Conversation, Locale, Recipient ID, Recipient Name, Reply to ID, Service URL, Summary, Text, Text Format, Topic Name and Type" paragraph 0121-0122).

As to dependent **claim 7**, Balasubramanian teaches the method of Claim 6, Balasubramanian further teaches wherein the link comprises a conversation identifier of a conversation between the user and the natural language interface, wherein the one or more values are configured to be stored in a database by the natural language interface and retrieved, using the conversation identifier, by a client device executing the automation process ("when a bot receives a message" are represented, collectively, as user-interactive objects 1516: Channel ID, Conversation ID, Conversation Name, From ID, From Name, Is Group Conversation, Locale, Recipient ID, Recipient Name, Reply to ID, Service URL, Summary, Text, Text Format, Topic Name and Type" paragraph 0121-0122,).

As to dependent **claim 8**, Balasubramanian teaches the method of Claim 6, Balasubramanian further teaches wherein the link comprises the one or more values, thereby providing the one or more values to the automation process. ("Service URL. The endpoint for the particular channel to which the bot should respond. For example, in some embodiments, the endpoint may be something like <https://skype.botframework.com>, <https://slack.botframework.com>, etc . Text. The message text that the end user input (e.g., typed). paragraph 0098-0110).

Claims 9-16 reflect a computerized apparatus embodying the limitations of claim 1-8 therefore the claims are rejected under similar rationale.

Claims 17-20 reflect a non-transitory computer readable medium embodying the limitations of claims 1-2 and 5-6 therefore the claims are rejected under similar rationale.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MAHELET SHIBEROU whose telephone number is (571)270-7493. The examiner can normally be reached on Monday-Friday 9:00 AM-5:00 PM Eastern Time.

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, Abdullah Al Kawsar can be reached on 571-270-3169. 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

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/MAHELET SHIBEROU/
Primary Examiner, Art Unit 2171

<i>Notice of References Cited</i>	Application/Control No. 17/026,305		Applicant(s)/Patent Under Reexamination NAHUM et al.	
	Examiner MAHELET SHIBEROU		Art Unit 2171	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-20180107461-A1	04-2018	Balasubramanian; Barath	G06F8/34	1/1
*	B	US-20180090141-A1	03-2018	Periorellis; Panos	G10L15/1815	1/1
	C					
	D					
	E					
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	H					
	I					
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
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	Q					
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	S					
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NON-PATENT DOCUMENTS

*		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.

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

Notice of References Cited

Part of Paper No. 20210506

<i>Search Notes</i> 	Application/Control No. 17/026,305	Applicant(s)/Patent Under Reexamination NAHUM et al.
	Examiner MAHELET SHIBEROU	Art Unit 2171

CPC - Searched*		
Symbol	Date	Examiner
H04L51/02 OR G06F40/134 OR G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279	06/04/2021	MS

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Inventor name search	06/04/2021	MS
East Search	06/04/2021	MS
CPC combined with limited text search	06/04/2021	MS
Text Search (attached)	06/04/2021	MS

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/MAHELET SHIBEROU/ Primary Examiner, Art Unit 2171	
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	4	"10277743".pn. "20180189347".pn. "20190037077".pn. "10897539".pn.	US-PGPUB; USPAT	OR	ON	2021/06/04 10:22
L4	446	(chatbot or bot) with (add\$3 or insert\$4 or fill\$3) with (field or entry or form)	US-PGPUB; USPAT	OR	ON	2021/06/04 13:42
L5	56	(chatbot or bot) with (add\$3 or insert\$4 or fill\$3) with (field or entry or form) with (value or parameter)	US-PGPUB; USPAT	OR	ON	2021/06/04 13:42
L6	10	(arnon near3 mazza).inv.	US-PGPUB; USPAT	OR	ON	2021/06/04 15:29
L7	16	form-fill\$3 with (chatbot or bot)	US-PGPUB; USPAT	OR	ON	2021/06/04 15:33
L9	1,344	(form-fill\$3 or input\$4 or field or entry or enter or fill\$3) with (value or parameter) with (chatbot or bot)	US-PGPUB; USPAT	OR	ON	2021/06/04 15:35
L10	834	L9 and @ad<"20171105"	US-PGPUB; USPAT	OR	OFF	2021/06/04 15:36
L12	43	L10 and (H04L51/02 OR G06F40/134 OR G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279).CPC.	US-PGPUB; USPAT	OR	ON	2021/06/04 15:37
L13	5	(form-fill\$3 or (data or input\$4) near3 (form or field or entry or enter\$3 or fill\$3)) with (value near5 parameter) with (chatbot or bot)	US-PGPUB; USPAT	OR	ON	2021/06/04 15:48
L14	986	(form-fill\$3 or (data or input\$4) near3 (form or field or entry or enter\$3 or fill\$3)) with (chatbot or bot)	US-PGPUB; USPAT	OR	ON	2021/06/04 15:50
L15	555	L14 and @ad<"20171105"	US-PGPUB; USPAT	OR	OFF	2021/06/04 16:01
L16	91	L15 and (H04L51/02 OR G06F40/134 OR G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279).CPC.	US-PGPUB; USPAT	OR	ON	2021/06/04 16:01
L17	72	L15 and (H04L51/02).CPC.	US-PGPUB; USPAT	OR	ON	2021/06/04 16:01
L18	16	((("NAHUM") near3 ("Nir"))) OR (("SASSON") near3 ("Shlomi"))).INV.	US-PGPUB; USPAT; USOCR;	OR	OFF	2021/06/04 17:07

			EPO; JPO; DERWENT			
L19	10	(build\$4 or publish\$3 or develop\$3) same (conversation or chat\$4 or dialogue) same (chatbot or bot) same (parameter near5 value)	US-PGPUB; USPAT	OR	ON	2021/06/04 17:09
L20	13	(build\$4 or publish\$3 or develop\$3) same (conversation or chat\$4 or dialogue) same (chatbot or bot) same (parameter near5 (data or value))	US-PGPUB; USPAT	OR	ON	2021/06/04 17:09
L21	15	("20100169792" "20100251128" "20160171119" "20150339942" "20020194164" "8024660" "20110185288" "20140310596" "20120317481" "20140068498" "8984441" "20120022951" "20150310488" "20070300174" "20080313149").PN.	US-PGPUB; USPAT	OR	OFF	2021/06/04 17:10
L22	30	("20170324868" "20180158068" "20120203846" "20120042263" "20130166275" "20140244744" "20150347432" "20170098284" "20170236196" "20140081636" "20140143683" "20130129076" "20140237057" "20180174020" "20130080928" "20180052928" "20130311621" "20160117740" "20170076264" "20120290950" "20120084811" "20140258032" "10332170" "9191615" "20180150524" "20130232204" "20170324867" "20100030578" "20150254675" "20150163358").PN.	US-PGPUB; USPAT	OR	OFF	2021/06/04 17:10

6/4/2021 5:11:02 PM

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A method, apparatus and product for chat-based application interface for automation. Using a natural language interface, receiving user input. Based on the user input, determining an automation process of a computer program having a user interface (UI), to be executed. The automation process is...

CURRENT ASSIGNEES: WALKME LTD
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A method, apparatus and product for defining an automation process to be invoked in response to a conversation of a user with a natural language interface. A conversation that is configured to obtain from a user values for parameters and is implemented by a natural language interface is defined. The...

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- Chat-based application interface for automation**

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computer program having a data structure for, or the structure, the organization, process for...

CURRENT ASSIGNEES: WALKME LTD
US10819864 | US PATENTS | 27-OCT-2020

6. Dependency graph generation in a networked system

Conversations are modeled using dependency graph data structures to facilitate the interaction of users with automated assistants when performing actions performed by computing services. An automated assistant may utilize a dependency graph data structure to guide or otherwise control a...

CURRENT ASSIGNEES: GOOGLE LLC
US20190341039 | US APPLICATIONS | 07-NOV-2019

7. System and method for generating a networked system

Result #1

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Systems and methods for invoking chatbots in a channel based communication ...



US • US10182742B2 • Richard Smullen • Pypestream Inc.

Priority 2015-03-25 • Filed 2017-03-07 • Granted 2019-01-22 • Published 2019-01-22

The disclosed systems and methods join a user to a sub-channel within a primary communication channel. A message from the user comprises a user identifier and a text communication. The communication is compared to each tag in each set of tags in a plurality of sets of tags, each set of tags being ...

Compassion, variety and cohesion for methods of text analytics, writing, search ...



US • US9213582B2 • Lawrence Au • Lawrence Au

Priority 2009-03-23 • Filed 2011-06-23 • Granted 2015-12-15 • Published 2015-12-15

The present invention is a computer implemented system for analyzing text, for computing aspects of sentiment via chord transitions, such as prissiness, bombast and sarcasm via underlying multiple dimensions of sentiment, computing compassionate rhetoric via successive areas of sentiment in text, ...

Systems and methods for navigating nodes in channel based chatbots using ...



US • US20200361227A1 • Richard Smullen • Pypestream Inc.

Priority 2015-03-25 • Filed 2020-05-18 • Published 2020-11-05

The disclosed systems and methods join a user to a primary communication channel that is associated with an automated human interface module. The automated human interface module includes a plurality of nodes. A message including a text communication is posted by the user and sent to a decision ...

Utilizing discourse structure of noisy user-generated content for chatbot ...



US • US10892883B2 • Boris Gelfand • Oracle International Corporation

Priority 2017-05-10 • Filed 2018-06-15 • Granted 2020-03-24 • Published 2020-03-24

Systems, devices, and methods of the present invention uses noisy-robust discourse trees to determine a rhetorical relationship between one or more sentences. In an example, a rhetoric classification application creates a noisy-robust communicative discourse tree. The application accesses a ...

Enabling chatbots by detecting and supporting argumentation



US • US10879611B2 • Boris Gelfand • Oracle International Corporation

Priority 2017-05-10 • Filed 2018-06-15 • Granted 2020-06-09 • Published 2020-06-09

Systems, devices, and methods of the present invention detect argumentation in text. In an example, an application executing on a computing device accesses text comprising fragments. The application creates a discourse tree from the text. The discourse tree includes nodes, each nonterminal node ...

<https://patents.google.com/?q=defining+automation+chatbot&oq=defining+automation+chatbot>

1/3

Chatbots



WO US AU • US20090108182 • Lisa Jane Bellby • Myrioberwin Group Pty Ltd
 Priority 2009-01-08 • Filed 2009-01-08 • Granted 2014-01-14 • Published 2014-01-14
 In one aspect, the invention concerns a method of operating a chatbot to engage in a conversation with a correspondent the method comprises building a profile having plural profile variables for the correspondent; and during the conversation with the correspondent, selecting a node in the ...

Systems and methods for chatbot generation



WO EP US AU CA • US20190288333 • Arnon Mezza • Genesys Telecommunications Laboratories, Inc.
 Priority 2017-12-13 • Filed 2017-12-13 • Granted 2019-12-03 • Published 2019-12-03
 A method for configuring a topic-specific chatbot: clustering, by a processor, a plurality of transcripts of interactions between customers and human agents of a contact center of an enterprise to generate a plurality of clusters of interactions, each cluster of interactions corresponding to a ...

Conversational interface for matching text of spoken input based on context ...



WO EP US CN • US20200491182 • Anantha Deepthi Uppala • Intel Corporation
 Priority 2015-06-25 • Filed 2015-06-25 • Granted 2019-04-30 • Published 2019-04-30
 Technologies for conversational control of a home automation system include a computing device in communication with one or more home automation devices. The computing device receives text input indicative of a spoken user request including one or more parameters associated with a home automation ...

Systems and processes for operating and training a text-based chatbot



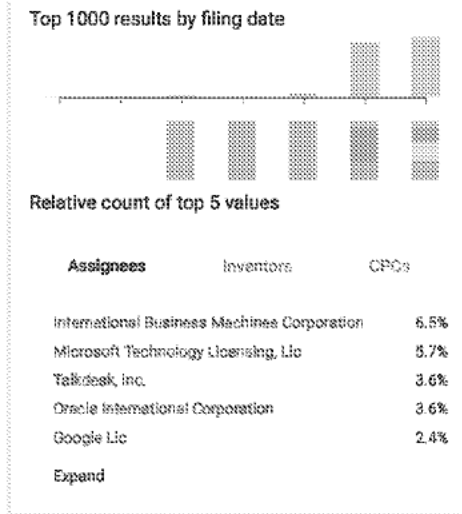
US • US20180211645A1 • Andrew Magliozzi • Admit Tech, Inc.
 Priority 2016-09-29 • Filed 2017-09-29 • Published 2018-05-10
 Current chatbot systems cannot understand enough different topics to converse with students who have questions about college admissions, financial aid, courses, and other topics on the path to and through college. Current chatbots also have a hard time understanding misspellings, slang, and ...

Training a chatbot for a digital advertisement to simulate common conversations ...



US • US20200283482 • Vorem Taimor • Facebook, Inc.
 Priority 2017-08-01 • Filed 2017-08-01 • Granted 2020-02-18 • Published 2020-02-18
 This disclosure covers systems and methods that generate and train a chatbot to automatically communicate with users concerning subjects related to a digital advertisement received for distribution. In particular, the disclosed systems and methods train a chatbot to simulate common conversation ...

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 17/026,305		Filing Date 09/21/2020		☐ To be Mailed	
ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO									
APPLICATION AS FILED - PART I									
	(Column 1)	(Column 2)							
FOR	NUMBER FILED	NUMBER EXTRA			RATE (\$)			FEE (\$)	
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A			N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*			x \$100 =				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*			x \$460 =				
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).								
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
* If the difference in column 1 is less than zero, enter "0" in column 2.							TOTAL		
APPLICATION AS AMENDED - PART II									
	(Column 1)	(Column 2)	(Column 3)						
AMENDMENT	08/05/2021	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
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	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x \$ 480 =	0	
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	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
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Title of Invention:	Automation Process Definition for a Natural Language Interface
First Named Inventor/Applicant Name:	Nir NAHUM
Customer Number:	106928
Filer:	MARK I KOFFSKY
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Attorney Docket Number:	1179.0190 (583-6.5 USCON)
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Nir NAHUM

Serial No.: 17/026,305

For: AUTOMATION PROCESS DEFINITION FOR A NATURAL
LANGUAGE INTERFACE

Filed: September 21, 2020

Examiner: SHIBEROU, MAHELET

Art Unit: 2171

Confirmation No.: 1079

Attorney Docket No.: 1179.0190 (583-6.5 USCON)

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

AMENDMENT

Dear Sir:

This is in response to the United States Patent and Trademark Office
Communication mailed June 09, 2021 (hereinafter "**Office Action**").

Kindly amend this application as follows.

Amendments to the claims begin on page 2.

Remarks accompanying the amendments begin on page 7.

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions:

1. (Currently Amended) A method for defining an automation process, wherein the automation process is configured to be invoked in response to a conversation of a user with a natural language interface, the method comprising:
 - defining a conversation to be implemented by a natural language interface, wherein the conversation is configured to obtain from the user one or more values to one or more parameters associated with the automation process;
 - associating the conversation with the automation process, wherein the automation process is configured to utilize a user interface of a computer program to input data thereto or execute functionality thereof, wherein the automation process is a parameterized automation process depending on the one or more parameters; and
 - publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the parameterized automation process is invoked automatically by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters.
2. (Original) The method of Claim 1, wherein said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process.
3. (Original) The method of Claim 2, wherein the conversation elements comprise at least one of: a message element and a condition element.
4. (Original) The method of Claim 2, wherein the conversation elements comprise a second action element associated with a second automation process, whereby the

natural language interface is configured to selectively invoke either the automation process or the second automation process based on interaction with the user.

5. (Original) The method of Claim 1, wherein the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a conversation from the plurality of conversations based on a user intent matching the one or more terms, wherein the user intent is determined based on interaction of the user with the natural language interface.
6. (Original) The method of Claim 1, wherein the natural language interface is implemented by a third-party messaging service, wherein the natural language interface is configured to generate and provide the user with a link, wherein interaction with the link is configured to cause execution of the automation process.
7. (Original) The method of Claim 6, wherein the link comprises a conversation identifier of a conversation between the user and the natural language interface, wherein the one or more values are configured to be stored in a database by the natural language interface and retrieved, using the conversation identifier, by a client device executing the automation process.
8. (Original) The method of Claim 6, wherein the link comprises the one or more values, thereby providing the one or more values to the automation process.
9. (Currently Amended) A computerized apparatus for defining an automation process, wherein the automation process is configured to be invoked in response to a conversation of a user with a natural language interface, wherein said computerized apparatus comprising a processor and coupled memory, the processor being adapted to perform:
defining a conversation to be implemented by a natural language interface, wherein the conversation is configured to obtain from the user one or more values to one or more parameters associated with the automation process;

associating the conversation with the automation process, wherein the automation process is configured to utilize a user interface of a computer program to input data thereto or execute functionality thereof, wherein the automation process is a parameterized automation process depending on the one or more parameters; and

publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the parameterized automation process is invoked automatically by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters.

10. (Original) The computerized apparatus of Claim 9, wherein said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process.
11. (Original) The computerized apparatus of Claim 10, wherein the conversation elements comprise at least one of: a message element and a condition element.
12. (Original) The computerized apparatus of Claim 10, wherein the conversation elements comprise a second action element associated with a second automation process, whereby the natural language interface is configured to selectively invoke either the automation process or the second automation process based on interaction with the user.
13. (Original) The computerized apparatus of Claim 9, wherein the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a conversation from the plurality of conversations

based on a user intent matching the one or more terms, wherein the user intent is determined based on interaction of the user with the natural language interface.

14. (Original) The computerized apparatus of Claim 9, wherein the natural language interface is implemented by a third-party messaging service, wherein the natural language interface is configured to generate and provide the user with a link, wherein interaction with the link is configured to cause execution of the automation process.
15. (Original) The computerized apparatus of Claim 14, wherein the link comprises a conversation identifier of a conversation between the user and the natural language interface, wherein the one or more values are configured to be stored in a database by the natural language interface and retrieved, using the conversation identifier, by a client device executing the automation process.
16. (Cancelled)
17. (Currently Amended) A non-transitory computer readable medium for defining an automation process, wherein the automation process is configured to be invoked in response to a conversation of a user with a natural language interface, the non-transitory computer readable medium retaining program instructions, which program instructions when read by a processor, cause the processor to perform:
 - defining a conversation to be implemented by a natural language interface, wherein the conversation is configured to obtain from the user one or more values to one or more parameters associated with the automation process;
 - associating the conversation with the automation process, wherein the automation process is configured to utilize a user interface of a computer program to input data thereto or execute functionality thereof, wherein the automation process is a parameterized automation process depending on the one or more parameters; and
 - publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the

parameterized automation process is invoked automatically by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters.

18. (Original) The non-transitory computer readable medium of Claim 17, wherein said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process.
19. (Original) The non-transitory computer readable medium of Claim 17, wherein the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a conversation from the plurality of conversations based on a user intent matching the one or more terms, wherein the user intent is determined based on interaction of the user with the natural language interface.
20. (Original) The non-transitory computer readable medium of Claim 17, wherein the natural language interface is implemented by a third-party messaging service, wherein the natural language interface is configured to generate and provide the user with a link, wherein interaction with the link is configured to cause execution of the automation process.
21. (New) The method of Claim 1, wherein the automation process is configured to execute a new functionality of the computer program, wherein the new functionality is defined based on the values to the one or more parameters, without relying on a dedicated Application Programming Interface (API) of the computer program.

REMARKS

Applicant requests reconsideration and allowance of the present application in view of the following remarks.

Claims 1-15, and 17-21 are pending in the Present Application, and are presented for examination, with Claims 1, 9 and 17 being independent. Claims 1, 9 and 17 have been amended. Claim 16 has been cancelled. Claim 21 has been added. Applicant asserts that no new matter has been introduced by the present amendment.

Applicant is not conceding that the subject matter encompassed by previously presented claims prior to this amendment was not patentable over the art cited by the Examiner. The claims were amended solely to facilitate allowance. Applicant respectfully reserves the right to pursue claims, including the subject matter encompassed by the claims as presented prior to this amendment and additional claims, in one or more continuing applications.

CLAIM AMENDMENTS

1. Claims 1, 9 and 17 have been amended. No new matter is introduced. Non-limiting examples of support are discussed.

Claim 1 has been amended to recite “wherein the automation process is configured to be invoked in response to a conversation...”. Support may be found in the Present Application, *inter alia*, at paragraph [0038], [0106].

Claim 1 has been further amended to recite that the one or more parameters are “associated with the automation process”. Support may be found in the Present Application, *inter alia*, at paragraphs [0046], [0050], [0073], [0078].

Claims 10 and 17 are amended similarly.

New Claim 21 recites “wherein the automation process is configured to execute a new functionality of the computer program, wherein the new functionality is defined based on the values to the one or more parameters, without relying on a dedicated Application Programming Interface (API) of the computer program”. Support may be found in the Present Application, *inter alia*, at paragraphs [0046], [0048], [0057], [0094].

At least in view of the above, Applicant submits that no new matter is introduced by the present amendment.

CLAIM REJECTIONS – 35 USC § 103

2. Claims 1-20 stand rejected under 35 U.S.C. §103 as allegedly being unpatentable over Balasubramanian et al. (US 2018/0107461 A1), in view of Periorellis et al. (US 2018/0090141, hereinafter referred to as Periorellis).

Applicant respectfully traverses these rejections. However, in order to facilitate expeditious prosecution, Applicant has enhanced the claim language. Applicant respectfully asserts that the art of record fails to teach or suggest many claimed features, before and after the amendment. Non-limiting examples are discussed below.

2.1. The cited art does not teach A method for defining an automation process to be invoked in response to a conversation of a user with a natural language interface

Current Claim 1 recites “A method for defining an automation process, wherein the automation process is configured to be invoked in response to a conversation of a user with a natural language interface”. Applicant respectfully submits that the cited references fail to teach or suggest these features.

In rejecting Claim 1, the Office Action relies on Balasubramanian at paragraph [0037] for allegedly teaching this feature. The Office Action contends that the workflow development system for building a bot referred to in Balasubramanian, is allegedly equivalent to the automation process cited by the claim. Applicant respectfully disagrees and submits such processes are fundamentally different.

Applicant respectfully submits that Balasubramanian teaches a workflow development system that enables users to develop and deploy bots (see, *inter alia*, the Abstract). The described steps and workflow (that comprises the bot logic) are utilized to build the bot (see, *inter alia*, paragraph [0037]). On the contrary, the disclosed subject matter, and Claim 1 in particular, refer to a method for defining an automation process.

The automation process is configured to be invoked in response to a conversation of a user with a natural language interface, e.g., a bot chat. Put differently, while the disclosed subject matter utilizes bots for defining an automation process, Balasubramanian suggests, *at best*, building the bot itself, and does not relate to the automation process. Nothing in Balasubramanian would even hint to invoking an automation process, *let alone*, defining such automation processes, as explicitly claimed.

Applicant further submits, that even if assuming *arguendo*, that Balasubramanian teachings of workflow steps of invoking applications to perform actions in response to receiving a message directed to the bot (such as in paragraphs [0005] and [0141]), can allegedly be an automation process, Balasubramanian would still fail to teach a method for defining such process. Instead, Balasubramanian, *at best*, would suggest to invoke the alleged process, as a step of deploying the generated bot itself. (see, *inter alia*, paragraphs [0038], [0141]).

Accordingly, the cited reference fails to teach or suggest the claimed feature, and, in fact, teaches away from the claimed feature.

2.2. The cited art does not teach that a parameterized automation process that depends on one or more parameters and that is invoked automatically by the natural language interface using values provided by the user to the natural language interface for the one or more parameters

Claim 1 recites “wherein the automation process is a parameterized automation process depending on the one or more parameters” and “whereby the parameterized automation process is invoked automatically by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters”. Applicant respectfully submits that the cited references fail to teach or suggest these features.

In rejecting Claim 1, the Office Action relies on Periorellis (e.g., at paragraphs [0039], [0059] and [0072] and on Figure 5B) for allegedly teaching “a parametrized automation process depending on the one or more parameters”. The Office Action refers to the example conversation in Periorellis for allegedly contending that the information

obtained using such dialog is used as values to one or more parameters upon which the automation process depends. The Office Action further asserts that it would have been obvious to a person of ordinary skill in the art to modify the method of Balasubramanian to comprise the parametrized automation process allegedly described by Periorellis to obtain the claimed feature. In particular, the Office Action contends (e.g., 3rd paragraph on Page 5), that “One would have been motivated to provide enhanced interaction between a user and the chatbot”.

First, Applicant respectfully submits that the cited references fail to teach or suggest “a parameterized automation process” as explicitly claimed. As argued above, the cited references and particularly Balasubramanian, fail to teach “defining an automation process” and would *at best* suggest defining a chat bot.

Second, Applicant respectfully submits that the cited references fail to teach obtaining one or more values to one or more parameters, as alleged by the Office Action. Instead, Periorellis, *at best*, suggests obtaining information from the user via a chatbot, to fill predetermined data slots. Nothing in Periorellis would even hint to obtaining values of parameters of a parameterized automation process, as explicitly claimed.

Third, Applicant further submits that even, if assuming *arguendo*, that Balasubramanian teaches an automation process, or that Periorellis, *arguendo*, teaches obtaining values of parameters from a user via a chatbot, the cited references would still fail to suggest that the automation process is associated with any parameters, or that the values obtained from the user are utilized for defining the automation process.

Fourth, Applicant respectfully submits that the contention of the Office Action regarding the motivation to provide enhanced interaction between a user and the chatbot, is irrelevant and is indicative that the cited references fail to teach the claimed feature. Put differently, even if assuming, *arguendo*, that a person of ordinary skill in the art would be motivated to modify the method of Balasubramanian to comprise obtaining the values of Periorellis, for allegedly providing an enhanced interaction between the user and the chatbot, it would still not clear how such teaching, combination or the alleged motivation to combine, lead to the cited feature of a parametrized automation process

that is invoked automatically by the natural language interface using values provided by the user thereto. The combination may, *at best*, suggest enhancing conversation between the user and the bot by adjusting the chat based on previous answers of the user, or using the answers of the users, as an output to be provided for another user, or for a manual action, such as preparing a pizza. Accordingly, nothing in Periorellis, Balasubramanian or combination thereof, would even suggest automatically invoking the parameterized automation process by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters, as explicitly claimed.

Accordingly, the cited reference fails to teach or suggest the claimed feature, and, in fact, teaches away from the claimed feature.

The same arguments are valid, *mutatis mutandis*, with respect to Claims 9 and 17.

Dependent Claims 2-8, 11-16, and 18-20 which depend from Claims 1, 9 or 17, which Applicant believes are now in condition for allowance, and by virtue of their dependency are believed to be in condition for allowance as well.

Furthermore, Applicant respectfully asserts that the art of record fails to teach or suggest other claimed features of the dependent Claims. Non-limiting examples are discussed below.

2.3. The cited art does not teach conversation elements and parameters associated with the automation process

Claim 2 recites: "wherein said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process". Applicant respectfully submits that the cited references fail to teach or suggest these features.

In rejecting Claim 2, the Office Action relies on Balasubramanian at paragraph [0006] for allegedly teaching the features of the claim. In particular, the Office Action contends that the “workflow” referred to in Balasubramanian is allegedly equivalent to the cited “conversation flow”, and that the “workflow steps” referred to in Balasubramanian are allegedly equivalent to the “conversation elements” cited by the claim. On the other hand, the Office Action uses the same terms of Balasubramanian (e.g., on Page 3) for allegedly teaching other terms of the claim. Particularly, the Office Action contends that the “workflow” referred to in Balasubramanian is also the “automation process”; and that the “workflow steps” are allegedly “values to the one or more parameters”. Accordingly, it seems that the Office Action mixes between the terms “parameters” associated with the “automation process” and “workflow steps” of the “conversation flow”.

Applicant respectfully submits that such terms are utterly different. While the conversation flow is associated with the chat bot (or other natural language interface) itself (see, *inter alia*, paragraph [0105] of the current application), such as defining the questions the chat bot asks, the parameters that the chat bot asks for and attempts to retrieve from the user's responses, the control flow conditions on the conversation flow and the like; the automation process is configured to be executed via the chat bot on a target system (different examples are provided in the specification, such as in paragraph [0052], [0054]-[0055], [0081]-[0082], [0087] and etc.), and the values of parameters associated therewith are utilized for the execution of the automation process itself. Accordingly, it is clear that the same term in Balasubramanian cannot be used to for teaching both of these terms.

As a result, it respectfully asserted that even the cited references fail to teach or suggest, at least one of “parameters associated with automation process” and “workflow steps of the conversation flow”.

The same argument is valid, *mutatis mutandis*, with respect to Claims 10 and 18.

2.4. The cited art does not teach selectively invoking different automation processes by the same conversation

Claim 4 recites: "wherein the conversation elements comprise a second action element associated with a second automation process, whereby the natural language interface is configured to selectively invoke either the automation process or the second automation process based on interaction with the user". Applicant respectfully submits that the cited references fail to teach or suggest these features.

In rejecting Claim 4, the Office Action relies on Figure 17 and paragraph [0126] of Balasubramanian for allegedly teaching the features of the claim. The Office Action contends that Balasubramanian teaches these features by referring to the selection of different sets of actions within the same conversation (e.g., 1608 includes different sets 1702, 1704 and 1706 in Figure 17, or 180 in Figure 18). Applicant respectfully disagrees and submits that even if assuming, *arguendo*, that Balasubramanian teaches an automation process, Balasubramanian would still fail to refer to different automation processes, *let alone*, different automation processes that are invoked in a single conversation with the user by the natural language interface, as explicitly claimed. Put differently, the different steps in Balasubramanian referred to by the Office Action, are steps within a certain set of actions (1068) that can be selected by the user along with other sets (such as 1610 in Figure 18) that are all steps of a single workflow (see, *inter alia*, paragraph [0124] and Figure 16), that *at best*, can be related to a single script utilized for managing interactions between the bot and the end user (see, *inter alia*, paragraph [0086]). Nothing in Balasubramanian would even hint to associating such steps with an automation process, *let alone*, with different automation processes. Accordingly, even if assuming *arguendo*, that the illustrated GUI screen (316) in Figures 16-18 of Balasubramanian is allegedly associated with an automation process, it would be related, *at best*, to a single automation process that comprises different alternative steps.

Accordingly, the cited reference fails to teach or suggest the claimed feature, and, in fact, teaches away from the claimed feature.

The same argument is valid, *mutatis mutandis*, with respect to Claim 12.

At least in view of the above, Applicant respectfully requests withdrawal of the rejection under 35 U.S.C. § 103.

NEW CLAIM

3. Claim 21 is new. Applicant respectfully submits that Claim 21 is patentable over the cited art at least in view of it depending on Claim 1, which is allowable by itself.

Moreover, the new Claim 21 is patentable also because the art of record fails to teach or suggest that "the automation process is configured to execute a new functionality of the computer program, that is defined based on the values to the one or more parameters, without relying on a dedicated Application Programming Interface (API) of the computer program". In fact, the cited references would even teach away from this feature, as in both of the references the alleged functionality of the bot is predefined and preconfigured using a dedicated API and the user only inserts values or selects between different steps without affecting this functionality.

CONCLUSION

Applicant believes the amendments and remarks presented hereinabove to be fully responsive to all of the grounds of rejection raised by the Examiner. In view of these amendments and remarks, Applicant respectfully submits that all of the claims in the present application are in order for allowance. Notice to this effect is hereby requested.

If for any reason the Examiner feels that consultation with Applicant would be helpful in the advancement of the prosecution, the Examiner is invited to call the telephone number below and set an interview.

Respectfully submitted,

Dated: August 5, 2021

/Mark I. Koffsky/

Mark I. Koffsky

Registration No. 41,906

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	17026305
	Filing Date	2020-09-21
	First Named Inventor	Nir NAHUM
	Art Unit	2171
	Examiner Name	Shiberou, M.
	Attorney Docket Number	1179.0190 (583-6.5 USCON)

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	17026305
	Filing Date	2020-09-21
	First Named Inventor	Nir NAHUM
	Art Unit	2171
	Examiner Name	Shiberou, M.
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	17026305
	Filing Date	2020-09-21
	First Named Inventor	Nir NAHUM
	Art Unit	2171
	Examiner Name	Shiberou, M.
	Attorney Docket Number	1179.0190 (583-6.5 USCON)

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).

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See attached certification statement.

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

A certification statement is not submitted herewith.

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	/Mark I. Koffsky/	Date (YYYY-MM-DD)	2021-10-06
Name/Print	Mark I. Koffsky	Registration Number	41906

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.**

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EFS ID:	43956998
Application Number:	17026305
International Application Number:	
Confirmation Number:	1079
Title of Invention:	Automation Process Definition for a Natural Language Interface
First Named Inventor/Applicant Name:	Nir NAHUM
Customer Number:	106928
Filer:	MARK I KOFFSKY
Filer Authorized By:	
Attorney Docket Number:	1179.0190 (583-6.5 USCON)
Receipt Date:	06-OCT-2021
Filing Date:	21-SEP-2020
Time Stamp:	01:06:25
Application Type:	Utility under 35 USC 111(a)

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1	Information Disclosure Statement (IDS) Form (SB08)	IDS.pdf	612253	no	4
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 17/026,305		Filing Date 09/21/2020		☐ To be Mailed				
ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO												
APPLICATION AS FILED - PART I												
		(Column 1)	(Column 2)									
FOR		NUMBER FILED	NUMBER EXTRA		RATE (\$)		FEE (\$)					
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A		N/A							
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TOTAL CLAIMS (37 CFR 1.16(j))		minus 20 =	*		x \$100 =							
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		(Column 1)	(Column 2)		(Column 3)							
AMENDMENT	10/19/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)					
	Total (37 CFR 1.16(j))	* 21	Minus	** 20	= 1	x \$ 100 =	100					
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	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))											
						TOTAL ADD'L FEE		100				
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)					
	Total (37 CFR 1.16(j))	*	Minus	**	=	x \$ 0 =						
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Application Number:		17026305		
Filing Date:		21-Sep-2020		
Title of Invention:		Automation Process Definition for a Natural Language Interface		
First Named Inventor/Applicant Name:		Nir NAHUM		
Filer:		MARK I KOFFSKY		
Attorney Docket Number:		1179.0190 (583-6.5 USCON)		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	1202	1	100	100
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Total in USD (\$)				100

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Application Number:	17026305
International Application Number:	
Confirmation Number:	1079
Title of Invention:	Automation Process Definition for a Natural Language Interface
First Named Inventor/Applicant Name:	Nir NAHUM
Customer Number:	106928
Filer:	MARK I KOFFSKY
Filer Authorized By:	
Attorney Docket Number:	1179.0190 (583-6.5 USCON)
Receipt Date:	19-OCT-2021
Filing Date:	21-SEP-2020
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Application Type:	Utility under 35 USC 111(a)

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1	Supplemental Response or Supplemental Amendment	SuppAmend.pdf	128952	no	8
			f7d80910ea0c5c4dd38edf87422b135e430abeb		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	37953	no	2
			1a905d495b145161e8a41a63232f2d1a09a4ceb9		
Warnings:					
Information:					
Total Files Size (in bytes):			166905		
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.					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Nir NAHUM

Serial No.: 17/026,305

For: AUTOMATION PROCESS DEFINITION FOR A NATURAL
LANGUAGE INTERFACE

Filed: September 21, 2020

Examiner: SHIBEROU, MAHELET

Art Unit: 2171

Confirmation No.: 1079

Attorney Docket No.: 1179.0190 (583-6.5 USCON)

SUPPLEMENTAL AMENDMENT

Dear Sir:

In response to the October 19, 2021, email from Examiner Shiberou to the undersigned, kindly amend this application as follows.

Amendments to the claims begin on page 2.

Remarks accompanying the amendments begin on page 8.

IN THE CLAIMS:

This listing of the claims replaces all prior versions:

1. (Currently Amended) A method for defining an automation process, wherein the automation process is configured to be invoked in response to a conversation of a user with a natural language interface, the method comprising:
 - defining a conversation to be implemented by a natural language interface, wherein the conversation is configured to obtain from the user one or more values to one or more parameters associated with the automation process;
 - associating the conversation with the automation process, wherein the automation process is configured to utilize a displayed user interface of a computer program to ~~input data thereto or~~ simulate sequence of interactions with the displayed user interface of the computer program and execute a functionality thereof of the computer program, wherein the automation process is a parameterized automation process depending on the one or more parameters; and
 - publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the parameterized automation process is invoked automatically by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters.
2. (Original) The method of Claim 1, wherein said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process.
3. (Original) The method of Claim 2, wherein the conversation elements comprise at least one of: a message element and a condition element.

4. (Original) The method of Claim 2, wherein the conversation elements comprise a second action element associated with a second automation process, whereby the natural language interface is configured to selectively invoke either the automation process or the second automation process based on interaction with the user.
5. (Original) The method of Claim 1, wherein the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a conversation from the plurality of conversations based on a user intent matching the one or more terms, wherein the user intent is determined based on interaction of the user with the natural language interface.
6. (Original) The method of Claim 1, wherein the natural language interface is implemented by a third-party messaging service, wherein the natural language interface is configured to generate and provide the user with a link, wherein interaction with the link is configured to cause execution of the automation process.
7. (Original) The method of Claim 6, wherein the link comprises a conversation identifier of a conversation between the user and the natural language interface, wherein the one or more values are configured to be stored in a database by the natural language interface and retrieved, using the conversation identifier, by a client device executing the automation process.
8. (Original) The method of Claim 6, wherein the link comprises the one or more values, thereby providing the one or more values to the automation process.
9. (Currently Amended) A computerized apparatus for defining an automation process, wherein the automation process is configured to be invoked in response to a conversation of a user with a natural language interface, wherein said

computerized apparatus comprising a processor and coupled memory, the processor being adapted to perform:

defining a conversation to be implemented by a natural language interface, wherein the conversation is configured to obtain from the user one or more values to one or more parameters associated with the automation process;

associating the conversation with the automation process, wherein the automation process is configured to utilize a displayed user interface of a computer program to ~~input data thereto or~~ simulate sequence of interactions with the displayed user interface of the computer program and execute a functionality thereof of the computer program, wherein the automation process is a parameterized automation process depending on the one or more parameters; and

publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the parameterized automation process is invoked automatically by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters.

10. (Original) The computerized apparatus of Claim 9, wherein said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process.
11. (Original) The computerized apparatus of Claim 10, wherein the conversation elements comprise at least one of: a message element and a condition element.
12. (Original) The computerized apparatus of Claim 10, wherein the conversation elements comprise a second action element associated with a second automation process, whereby the natural language interface is configured to selectively invoke either the automation process or the second automation process based on interaction with the user.

13. (Original) The computerized apparatus of Claim 9, wherein the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a conversation from the plurality of conversations based on a user intent matching the one or more terms, wherein the user intent is determined based on interaction of the user with the natural language interface.
14. (Original) The computerized apparatus of Claim 9, wherein the natural language interface is implemented by a third-party messaging service, wherein the natural language interface is configured to generate and provide the user with a link, wherein interaction with the link is configured to cause execution of the automation process.
15. (Original) The computerized apparatus of Claim 14, wherein the link comprises a conversation identifier of a conversation between the user and the natural language interface, wherein the one or more values are configured to be stored in a database by the natural language interface and retrieved, using the conversation identifier, by a client device executing the automation process.
16. (Cancelled)
17. (Currently Amended) A non-transitory computer readable medium for defining an automation process, wherein the automation process is configured to be invoked in response to a conversation of a user with a natural language interface, the non-transitory computer readable medium retaining program instructions, which program instructions when read by a processor, cause the processor to perform:
 - defining a conversation to be implemented by a natural language interface, wherein the conversation is configured to obtain from the user one or more values to one or more parameters associated with the automation process;
 - associating the conversation with the automation process, wherein the automation process is configured to utilize a displayed user interface of a computer program to simulate sequence of interactions with the displayed user

~~interface of the computer program and input data thereto or execute a~~
functionality ~~thereof of the computer program~~, wherein the automation process is a parameterized automation process depending on the one or more parameters; and

publishing the conversation to be accessible to a user via the natural language interface, wherein the user is enabled to interact with the natural language interface in accordance with the conversation, whereby the parameterized automation process is invoked automatically by the natural language interface and using one or more values provided by the user to the natural language interface for the one or more parameters.

18. (Original) The non-transitory computer readable medium of Claim 17, wherein said defining comprises determining a conversation flow, wherein the conversation flow defines an order between conversation elements, wherein the conversation elements comprise at least a question element and an action element, wherein the action element is associated with automation process.
19. (Original) The non-transitory computer readable medium of Claim 17, wherein the natural language interface is associated with a plurality of conversations, wherein the plurality of conversations comprise the conversation; wherein each of the plurality of conversations is associated with one or more terms, wherein the natural language interface is configured to select a conversation from the plurality of conversations based on a user intent matching the one or more terms, wherein the user intent is determined based on interaction of the user with the natural language interface.
20. (Original) The non-transitory computer readable medium of Claim 17, wherein the natural language interface is implemented by a third-party messaging service, wherein the natural language interface is configured to generate and provide the user with a link, wherein interaction with the link is configured to cause execution of the automation process.

21. (Previously Presented) The method of Claim 1, wherein the automation process is configured to execute a new functionality of the computer program, wherein the new functionality is defined based on the values to the one or more parameters, without relying on a dedicated Application Programming Interface (API) of the computer program.
22. (New) The method of Claim 1, wherein the functionality of the computer program comprises inputting data to a field in the displayed user interface.

REMARKS

In a October 19, 2021, email from Examiner Shiberou to the undersigned, the Examiner stated that the instant claims should be allowable. Notice to that effect is respectfully requested.

Respectfully submitted,

Dated: October 19, 2021

/Mark I. Koffsky/

Mark I. Koffsky
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Email: patent@koffskyschwalb.com



UNITED STATES PATENT AND TRADEMARK OFFICE

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

NOTICE OF ALLOWANCE AND FEE(S) DUE

106928 7590 10/26/2021
Koffsky Schwalb LLC
500 Seventh Avenue
8th Floor
New York, NY 10018

EXAMINER

SHIBEROU, MAHELET

ART UNIT PAPER NUMBER

2171

DATE MAILED: 10/26/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/026,305	09/21/2020	Nir NAHUM	1179.0190 (583-6.5 USCON)	1079

TITLE OF INVENTION: Automation Process Definition for a Natural Language Interface

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	01/26/2022

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)

106928 7590 10/26/2021
Koffsky Schwalb LLC
500 Seventh Avenue
8th Floor
New York, NY 10018

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.
17/026,305	09/21/2020	Nir NAHUM	1179.0190 (583-6.5 USCON)	1079

TITLE OF INVENTION: Automation Process Definition for a Natural Language Interface

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	01/26/2022

EXAMINER	ART UNIT	CLASS-SUBCLASS
SHIBEROU, MAHELET	2171	709-206000

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, 1 _____
- (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. 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.
17/026,305	09/21/2020	Nir NAHUM	1179.0190	1079
			(583.6.5 USCON)	
			EXAMINER	
			SHIBEROU, MAHELET	
			ART UNIT	PAPER NUMBER
			2171	

DATE MAILED: 10/26/2021

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. 17/026,305	Applicant(s) NAHUM et al.	
	Examiner MAHELET SHIBEROU	Art Unit 2171	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 the response filed on 8/5/2021 and supplemental response filed on 10/19/2021.
☐ 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 1-15 and 17-22. 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)	5. ☐ Examiner's Amendment/Comment
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>10/06/2021</u> .	6. ☐ Examiner's Statement of Reasons for Allowance
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.	7. ☐ Other _____.
4. ☒ Interview Summary (PTO-413), Paper No./Mail Date. <u>10/21/2021</u> .	

/MAHELET SHIBEROU/ Primary Examiner, Art Unit 2171	
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<i>Examiner-Initiated Interview Summary</i>	Application No. 17/026,305	Applicant(s) NAHUM et al.		
	Examiner MAHELET SHIBEROU	Art Unit 2171	AIA (First Inventor to File) Status Yes	Page 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	Title	Type
MAHELET SHIBEROU	Primary Examiner	Telephonic
Mark Koffsky, Reg. No. 41,906	Attorney of Record	

Date of Interview: 19 October 2021

Issues Discussed:

Other

A proposed examiner's amendment to claim 1 was discussed. The examiner suggested claim language to clarify that the automation process utilizes a "displayed" user interface. The Applicant accepted the proposed examiner's amendment and agreed to file supplemental amendment. See the Supplemental Amendment dated 10/19/2021 for further detail.

/MAHELET SHIBEROU/ Primary Examiner, Art Unit 2171	
Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04 Please further see: MPEP 713.04 Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b) 37 CFR § 1.2 Business to be transacted in writing	

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

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

Notice of References Cited	Application/Control No. 17/026,305	Applicant(s)/Patent Under Reexamination NAHUM et al.	
	Examiner MAHELET SHIBEROU	Art Unit 2171	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-10839798-B2	11-2020	Krishnan; Arvind	G06F40/30	1/1
*	B	US-20190124020-A1	04-2019	Bobbarjung; Deepak	G06Q20/123	1/1
	C					
	D					
	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	
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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.

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

Notice of References Cited

Part of Paper No. 20211021

<i>Search Notes</i> 	Application/Control No. 17/026,305	Applicant(s)/Patent Under Reexamination NAHUM et al.
	Examiner MAHELET SHIBEROU	Art Unit 2171

CPC - Searched*		
Symbol	Date	Examiner
H04L51/02 OR G06F40/134 OR G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279	06/04/2021	MS
H04L51/02 OR G06F40/134 OR G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279	10/20/2021	MS

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Inventor name search	06/04/2021	MS
East Search	06/04/2021	MS
CPC combined with limited text search	06/04/2021	MS
Text Search (attached)	06/04/2021	MS
Inventor name search	10/21/2021	MS
East Search	10/21/2021	MS
Text Search, IP.com & Google Patent	10/21/2021	MS
Consulted with AI Search Assistance	10/14/2021	MS

/MAHELET SHIBEROU/ Primary Examiner, Art Unit 2171	
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<i>Search Notes</i> 	Application/Control No. 17/026,305	Applicant(s)/Patent Under Reexamination NAHUM et al.
	Examiner MAHELET SHIBEROU	Art Unit 2171

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	East Interference Search, USPGPUB, USPAT	10/21/2021	MS

/MAHELET SHIBEROU/ Primary Examiner, Art Unit 2171	
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Issue Classification 	Application/Control No. 17/026,305	Applicant(s)/Patent Under Reexamination NAHUM et al.
	Examiner MAHELET SHIBEROU	Art Unit 2171

CPC						
Symbol					Type	Version
H04L	/	51	/	02	F	2013-01-01
G06F	/	3	/	16	I	2013-01-01
G06F	/	40	/	35	I	2020-01-01
G06F	/	40	/	134	I	2020-01-01
G06F	/	3	/	0482	I	2013-01-01
G06F	/	3	/	0483	I	2013-01-01
G06F	/	3	/	167	I	2013-01-01
G06F	/	9	/	542	I	2013-01-01

CPC Combination Sets					
Symbol	Type	Set	Ranking	Version	
/					

NONE (Assistant Examiner)		Total Claims Allowed: 21	
(Date) /MAHELET SHIBEROU/ Primary Examiner, Art Unit 2171 (Primary Examiner)		(Date) 20 October 2021 (Date)	
		O.G. Print Claim(s) 1	O.G. Print Figure 1

U.S. Patent and Trademark Office

Part of Paper No.: 20211021

Issue Classification 	Application/Control No. 17/026,305	Applicant(s)/Patent Under Reexamination NAHUM et al.
	Examiner MAHELET SHIBEROU	Art Unit 2171

INTERNATIONAL CLASSIFICATION			
CLAIMED			
G06F	/	3	/ 048

NON-CLAIMED			
/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	21	
/MAHELET SHIBEROU/ Primary Examiner, Art Unit 2171	20 October 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office

Part of Paper No.: 20211021

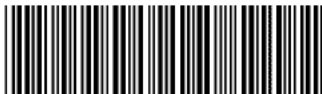
Issue Classification 	Application/Control No. 17/026,305	Applicant(s)/Patent Under Reexamination NAHUM et al.
	Examiner MAHELET SHIBEROU	Art Unit 2171

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47															
CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
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2	2	13	11	21	20										
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4	4	15	13	10	22										
5	5	16	14												
6	6	17	15												
7	7		16												
8	8	18	17												
11	9	19	18												

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 21	
/MAHELET SHIBEROU/ Primary Examiner, Art Unit 2171 (Primary Examiner) _____ (Date) 20 October 2021		O.G. Print Claim(s) 1	O.G. Print Figure 1

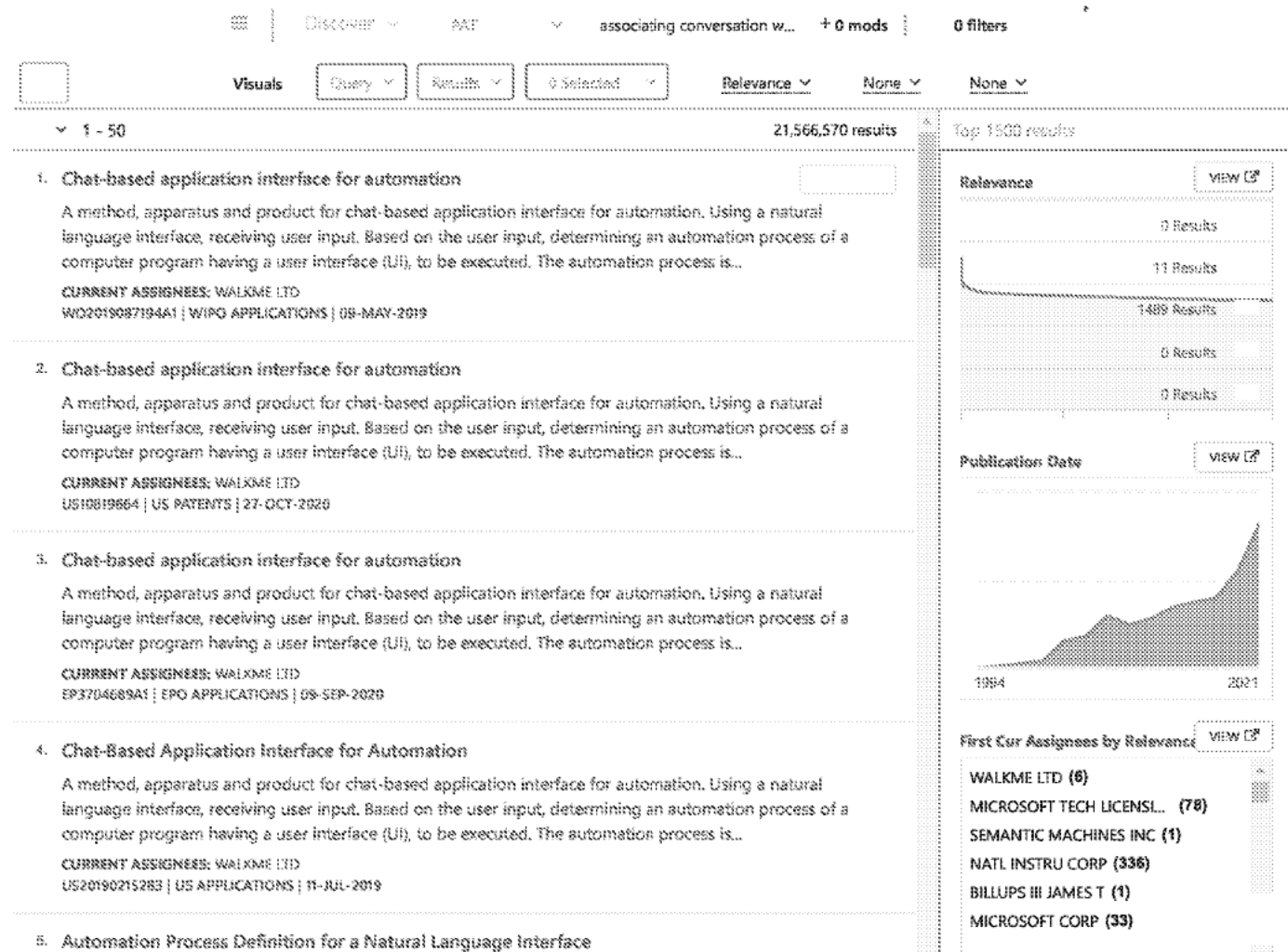
U.S. Patent and Trademark Office

Part of Paper No.: 20211021

<i>Index of Claims</i> 	Application/Control No. 17/026,305	Applicant(s)/Patent Under Reexamination NAHUM et al.
	Examiner MAHELET SHIBEROU	Art Unit 2171

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

CLAIMS									
☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47									
CLAIM		DATE							
Final	Original	06/04/2021	10/20/2021						
1	1	✓	=						
2	2	✓	=						
3	3	✓	=						
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20	19	✓	=						
21	20	✓	=						
9	21		=						
10	22		=						


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1/2


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various for presentation and to represent a set of natural language instructions to be used, a method...

CURRENT ASSIGNEES: WALKME LTD
 US20210006517 | US APPLICATIONS | 07-JAN-2021

6. Automatic spoken dialogue script discovery

A method for configuring an automated dialog system uses traces of interactions via a graphical user interface (GUI) for an application. Each trace includes interactions in the context of a plurality of presentations of the GUI. Elements of one or more presentations of the GUI are identified, and...

CURRENT ASSIGNEES: MICROSOFT TECH LICENSING LLC
 US10402485 | US PATENTS | 03-SEP-2019

[More Visuals](#)

X Automatic spoken dialogue script discovery

Result #1
 
 NEXT 

Bibliographic Data

Application No: 17/026,305

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☐ No ☐ Met After Allowance

Verified and Acknowledged: /MAHELET SHIBEROU/

Examiner's Signature

Initials

Title:

Automation Process Definition for a Natural Language Interface

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
09/21/2020	709	2171	1179.0190 (583-6.5 USCON)
RULE			

APPLICANTS

WalkMe LTD., Tel Aviv, ISRAEL

INVENTORS

Nir NAHUM, Tel Aviv, ISRAEL

Shlomi SASSON, Givat Zeev, ISRAEL

CONTINUING DATA

This application is a CON of 16358467 03/19/2019 PAT 10819664

16358467 is a CON of PCT/IL2018/051168 11/04/2018

PCT/IL2018/051168 has PRO of 62581714 11/05/2017

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

09/28/2020

STATE OR COUNTRY

ISRAEL

ADDRESS

Koffsky Schwalb LLC

500 Seventh Avenue

8th Floor

New York, NY 10018

UNITED STATES

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\$1,720

Patents

associating conversation with chatbot



associating conversation with chatbot

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Training a chatbot for a digital advertisement to simulate common conversations ...



US • US10565534B2 • Yoram Talmor • Facebook, Inc.

Priority 2017-08-01 • Filed 2017-08-01 • Granted 2020-02-18 • Published 2020-02-18

This disclosure covers systems and methods that generate and train a chatbot to automatically communicate with users concerning subjects related to a digital advertisement received for distribution. In particular, the disclosed systems and methods train a chatbot to simulate common conversation ...

Interactive content recommendation personalization assistant



US • US20170250930A1 • Yuval Ben-Itzhak • Outbrain Inc.

Priority 2016-02-29 • Filed 2017-01-11 • Published 2017-08-31

An interactive communication-based personalized content recommendation provisioning method and system are described. A user interacting with an interactive communication platform (e.g., a messaging application, an Internet of Things device, a Virtual Reality device, an Augmented Reality device, a ...

Utilizing discourse structure of noisy user-generated content for chatbot ...



US • US20200218832A1 • Boris Galinsky • Oracle International Corporation

Priority 2017-08-10 • Filed 2020-01-07 • Published 2020-07-09

Techniques for using noisy-robust discourse trees to determine a rhetorical relationship between sentences. In an example, a rhetoric classification application creates a noisy-robust communicative discourse tree. The application accesses a first communicative discourse tree derived from ...

Chatbots



WO 1/8 AU • US2009010882 • Lisa Jane Gopper • International Business Machines Corporation

Priority 2009-01-08 • Filed 2014-01-07 • Granted 2016-06-14 • Published 2016-06-14

In one aspect, the invention concerns a method of operating a chatbot to engage in a conversation with a correspondent the method comprises building a profile having plural profile variables for the correspondent; and during the conversation with the correspondent, selecting a node in the ...

Automatic configuration of cognitive assistant



US • US20190215677A1 • Keith Griffin • Cisco Technology, Inc.

Priority 2017-07-17 • Filed 2017-07-17 • Published 2019-01-17

The present technology is an automatically configuring virtual assistant. The virtual assistant is assigned to an existing conversation space and, based on analyzing the existing conversation space the virtual assistant

<https://patents.google.com/?q=associating+conversation+with+chatbot&oq=associating+conversation+with+chatbot>

1/3

has been assigned to, is associated with at least one contextual cue of an ...



Enabling chatbots by detecting and supporting argumentation

US • US10672011B2 • Boris Galka • Oracle International Corporation

Priority 2017-05-10 • Filed 2018-06-15 • Granted 2020-06-09 • Published 2020-06-09

Systems, devices, and methods of the present invention detect argumentation in text. In an example, an application executing on a computing device accesses text comprising fragments. The application creates a discourse tree from the text. The discourse tree includes nodes, each nonterminal node ...



Systems and methods for invoking chatbots in a channel based communication ...

US • US10187332B2 • Richard Smullen • Pipestream Inc.

Priority 2015-03-25 • Filed 2017-03-07 • Granted 2019-01-22 • Published 2019-01-22

The disclosed systems and methods join a user to a sub-channel within a primary communication channel. A message from the user comprises a user identifier and a text communication. The communication is compared to each tag in each set of tags in a plurality of sets of tags, each set of tags being ...



Systems and methods for navigating nodes in channel based chatbots using ...

US • US11102155B2 • Richard Smullen • Pipestream Inc.

Priority 2015-03-25 • Filed 2020-05-18 • Granted 2021-08-24 • Published 2021-08-24

The disclosed systems and methods join a user to a primary communication channel that is associated with an automated human interface module. The automated human interface module includes a plurality of nodes. A message including a text communication is posted by the user and sent to a decision ...



Systems and methods for a multiple topic chat bot

US • US10366163B2 • Xianchao Wu • Microsoft Technology Licensing, LLC

Priority 2017-01-12 • Filed 2017-01-12 • Granted 2019-07-30 • Published 2019-07-30

Systems and methods for multiple topic automated chatting are provided. The systems and method provide multiple topic automated (or artificial intelligence) chatting by analyzing user inputs in a conversation to determine a plurality of topics, to determine and score features related to the ...



System and method for facilitating computer generated conversations with the ...

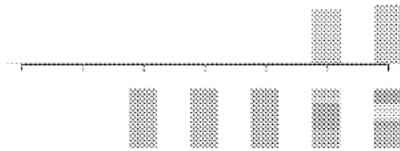
US CA • CA2964836C • Alkarem Lajji • SmartBotHub LLC

Priority 2016-04-22 • Filed 2017-04-24 • Granted 2020-09-01 • Published 2020-09-01

SYSTEM AND METHOD FOR FACILITATING COMPUTER GENERATED CONVERSATIONS WITH THE AID OF A DIGITAL COMPUTER Technical Field This invention relates in general to electronic communications, and in particular, to a system and method for facilitating conversations with the aid of a digital computer.

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Top 1000 results by filing date



Relative count of top 5 values

Assignees	inventors	CPGs
International Business Machines Corporation		9.6%
Microsoft Technology Licensing, LLC		8.1%
Oracle International Corporation		4.7%
Talend, Inc.		3.3%
富士ゼロックス株式会社		3.3%
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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S9	2	("20110213642" "20170310613").PN.	US-PGPUB; USPAT	OR	OFF	2019/07/05 10:25
S10	6	"20080089490".pn. "20110213642".pn. "8949377".pn. "8224906".pn. "20090292778".pn. "20180239837".pn.	US-PGPUB; USPAT	OR	OFF	2019/07/05 10:41
S14	47	((chat adj bot) or (virtual adj agent) or (virtual adj assistance)) same (web or webpage or user adj interface) near3 (form or input adj field or data adj entry)	US-PGPUB; USPAT	OR	ON	2019/07/05 11:09
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S16	45	("6604090" "20030093428" "6832196" "6983307" "20080270224" "7295664" "6466654" "20040128136" "20070226198" "7366766" "7373300"	US-PGPUB; USPAT	OR	ON	2019/07/05 12:12

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S17	6	"20170255445".pn. "20190126463".pn. "20180107653".pn. "8713540".pn. "7487095".pn. "20190103101".pn.	US-PGPUB; USPAT	OR	ON	2019/07/05 12:24
S18	17	"20060129379".pn. "20120078611".pn. "8594997".pn. "20050210061".pn. "20130103384".pn. "20190087398".pn. "7613719".pn. "20070174350".pn. "9015030".pn. "20020063734".pn. "20180137178".pn. "20110214067".pn. "20090077494".pn. "20060020886".pn. "20120110459".pn. "9058105".pn. "20160260433".pn.	US-PGPUB; USPAT	OR	OFF	2019/07/18 09:35
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S43	7	("20050172261" "20060112123" "20130110803" "20130110810" "7613719" "8145990" "8935277").PN.	US-PGPUB; USPAT	OR	OFF	2019/07/19 11:26
S44	5	(Nahum near3 Nir).inv.	US-PGPUB; USPAT	OR	OFF	2019/07/19 11:26
S45	1	(Sasson near3 Shlomi).inv.	US-PGPUB; USPAT	OR	OFF	2019/07/19 11:27
S46	229	(chat near3 bot) with (user adj interface or application)	US-PGPUB; USPAT	OR	ON	2019/07/19 11:28

S48	46	(chat near3 bot) with (user adj interface or application) with (input or command)	US-PGPUB; USPAT	OR	ON	2019/07/19 11:30
S49	49	((chat adj bot) or (virtual adj agent) or (virtual adj assistance)) same (web or webpage or user adj interface or application) near3 (form or input adj field or data adj entry or table)	US-PGPUB; USPAT	OR	ON	2019/07/19 11:31
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S52	229	(chat near3 bot) with (user adj interface or application)	US-PGPUB; USPAT	OR	ON	2019/07/19 11:37
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S54	2	"20180137178".pn. "20050210061".pn.	US-PGPUB; USPAT	OR	ON	2019/11/04 10:59
S55	52	(non-human or non near2 human or robot) near3 (chat) with (website or webpage or service)	US-PGPUB; USPAT	OR	ON	2019/11/04 11:22
S56	16	("7379087" "20070186172" "7861176" "20010032244" "8335825" "20120072440" "7305350" "8271509" "20130332537" "20120036245" "20120036245" "7263526" "20030037110" "20090234926" "8335495" "20010054064" "20100076837" "20010032244" "20090234926" "7305350" "8271509" "8335495").PN.	US-PGPUB; USPAT	OR	ON	2019/11/04 11:38

S57	0	(non-human or non near2 human or robot or chat adj bot) near3 (help or assistance) near3 (suggest\$3 or recommend\$3 or feedback) near7 (website or webpage or application or program or form or user adj interface)	US-PGPUB; USPAT	OR	ON	2019/11/04 12:26
S58	32	(non-human or non near2 human or robot or chat adj bot) near3 (help or assistance) same (suggest\$3 or recommend\$3 or feedback) same (website or webpage or application or program or form or user adj interface)	US-PGPUB; USPAT	OR	ON	2019/11/04 12:26
S59	48	(chat adjs bot) near3 (list\$3 or present\$3 or display\$3) same (help or assistance) same (suggest\$3 or recommend\$3 or feedback) same (website or webpage or application or program or form or user adj interface)	US-PGPUB; USPAT	OR	ON	2019/11/04 12:28
S73	6	"20180144126".pn. "20180189408".pn. "20070168480".pn. "20170237692".pn. "20180189795".pn. "20090281966".pn.	US-PGPUB; USPAT	OR	ON	2019/11/04 13:06
S74	142	(chat adj bot or bot or robot) with (complet\$3 or finish\$3 or help\$3 or assist\$4) with (task or job or interaction) near3 (application or web or website or webpage or program)	US-PGPUB; USPAT	OR	ON	2019/11/04 13:21
S76	1,011	(chat adj bot or bot or robot) near4 (convers\$4 or chat\$3 or messag\$3) near3 user	US-PGPUB; USPAT	OR	ON	2019/11/04 13:27
S77	2	("20150063556" "20170324866").PN.	US-PGPUB; USPAT	OR	ON	2019/11/04 13:34
S78	40	((chat adj bot or bot or robot) near4 (convers\$4 or chat\$3 or messag\$3) near3 user) with (task or (fill\$3 or complet\$3) near2 (form or field))	US-PGPUB; USPAT	OR	ON	2019/11/04 13:41
S79	111	((chat adj bot or bot or robot) near4 (convers\$4 or chat\$3 or messag\$3) near3 user) near3 service	US-PGPUB; USPAT	OR	ON	2019/11/04 13:53
S80	27	((chat adj bot or bot or robot) near4 (convers\$4 or chat\$3 or messag\$3) near3 user) near3 (interact\$3 near3 (application or user adj interface))	US-PGPUB; USPAT	OR	ON	2019/11/04 13:54
S81	1	("20120215871").PN.	US-PGPUB; USPAT	OR	ON	2019/11/04 14:06

S82	200	(application or user adj interface or program or website or webpage or web) near5 ((chat adj bot or bot or robot) near4 (convers\$4 or chat\$3 or messag\$3) near3 user)	US-PGPUB; USPAT	OR	ON	2019/11/04 14:15
S83	3	"20180005216".pn. "20190207875".pn. "20180005215".pn.	US-PGPUB; USPAT	OR	OFF	2019/11/04 14:30
S84	3	"20190287537".pn. "20190066694".pn. "20180102989".pn.	US-PGPUB; USPAT	OR	OFF	2019/11/04 14:34
S85	1	16/358467.app.	US-PGPUB; USPAT	OR	OFF	2019/11/07 14:11
S86	1	"20160283463".pn.	US-PGPUB; USPAT	OR	OFF	2019/11/07 14:29
S87	11	"20160283463".pn. "20040083092".pn. "20140278343".pn. "10419489".pn. "20170293610".pn. "20180081950".pn. "20180212904".pn. "9201865".pn. "20090229264".pn. "8346563".pn. "20140019116".pn.	US-PGPUB; USPAT	OR	OFF	2019/11/07 14:37
S88	13	("9130900" "9201865" "20090313055" "20120150922" "20100125456" "20130110519" "6952665" "20130198360" "20110035452" "20120271640" "7103553" "20090248587" "10042836").PN.	US-PGPUB; USPAT	OR	OFF	2019/11/07 14:53
S90	9	"20140006082".pn. "20180039478".pn. "20190310824".pn. "20100318398".pn. "20140012574".pn. "20180039477".pn. "20180144308".pn. "20140343950".pn. "20140115456".pn.	US-PGPUB; USPAT	OR	ON	2019/11/07 15:12
S91	8	("20120209586" "20120265528" "20100077085" "20120016678" "20050203757" "20130019320" "6636831" "7921156" "20050203757" "7921156").PN.	US-PGPUB; USPAT	OR	ON	2019/11/07 15:54
S93	293	(chat near3 bot) with (user adj interface or application)	US-PGPUB; USPAT	OR	ON	2019/11/08 13:03
S94	63	S93 and (G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279).CPC.	US-PGPUB; USPAT	OR	ON	2019/11/08 13:03

S95	63	S94 and (G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279).CPC.	US-PGPUB; USPAT	OR	ON	2019/11/08 13:03
S96	21	(user adj interface or GUI) with (chat near bot) with (input\$4 or click\$4 or execut\$3)	US-PGPUB; USPAT	OR	OFF	2020/03/16 10:56
S97	0	(chat near bot) with (interact\$3 near3 display\$3 near4 (application or user adj interface or GUI))	US-PGPUB; USPAT	OR	OFF	2020/03/16 11:09
S98	148	(chat near bot) same (interact\$3 or input\$3) with (application or user adj interface or GUI)	US-PGPUB; USPAT	OR	OFF	2020/03/16 11:11
S99	42	(chat near bot) same (interact\$3 or input\$3 or click\$3 or enter\$3 or navigat\$3 or fill\$3) near3 (data or information or region or page or field) same (application or form or page or user adj interface or GUI)	US-PGPUB; USPAT	OR	OFF	2020/03/16 11:17
S100	0	(natural near language) with (assist\$4 or help\$3 or perform\$3) with (interact\$3 or input\$3 or click\$3 or enter\$3 or navigat\$3 or fill\$3) near3 (data or information or region or page or field) with (application or form or page or user adj interface or GUI)	US-PGPUB; USPAT	OR	OFF	2020/03/16 11:41
S101	2	(chat near bot) with (assist\$4 or help\$3 or perform\$3) with (interact\$3 or input\$3 or click\$3 or enter\$3 or navigat\$3 or fill\$3) near3 (data or information or region or page or field) with (application or form or page or user adj interface or GUI)	US-PGPUB; USPAT	OR	OFF	2020/03/16 11:41
S102	466	(chat near bot) with (interact\$3 or input\$3 or click\$3 or enter\$3 or navigat\$3 or fill\$3)	US-PGPUB; USPAT	OR	ON	2020/03/16 11:44
S103	63	S102 and G06f3/048\$.CPC.	US-PGPUB; USPAT	OR	ON	2020/03/16 11:46
S104	134	(chat near bot) with (interact\$3 or input\$3) with (application or user adj interface or GUI)	US-PGPUB; USPAT	OR	ON	2020/03/16 11:48
S105	6	(Nahum near3 Nir).inv.	US-PGPUB; USPAT	OR	OFF	2020/03/24 11:29
S106	1	(Sasson near3 Shlomi).inv.	US-PGPUB; USPAT	OR	OFF	2020/03/24 11:30

S107	1	16/358467.app.	US-PGPUB; USPAT	OR	OFF	2020/03/24 11:38
S108	13	("20160171119" "20150339942" "20020194164" "8024660" "20110185288" "20140310596" "20120317481" "20140068498" "8984441" "20120022951" "20150310488" "20070300174" "20080313149").PN.	US-PGPUB; USPAT	OR	OFF	2020/03/24 11:50
S110	8,622	(voice or vocal or speech or speaker or natural adj language or chat near bot) near6 (interact\$4 or manipul\$3 or navigat\$3 or action) near6 (document or application)	US-PGPUB; USPAT	OR	OFF	2020/03/24 11:52
S111	7,681	(interact\$4 or manipul\$3 or navigat\$3 or action) near6 (document or application) near4 (voice or vocal or speech or speaker or natural adj language or chat near bot)	US-PGPUB; USPAT	OR	OFF	2020/03/24 11:54
S114	6,969	S111 and @ad<"20171105"	US-PGPUB; USPAT	OR	OFF	2020/03/24 11:56
S115	659	S114 and (G06F3/0482, G06F3/16, G06F40/10, G06F3/16, G06F3/167).CPC.	US-PGPUB; USPAT	OR	OFF	2020/03/24 11:57
S119	62	(interact\$4 or manipul\$3 or navigat\$3 or action) near6 (document or application) near4 ((chat adj bot) or (virtual adj agent) or (virtual adj assistance))	US-PGPUB; USPAT	OR	OFF	2020/03/24 11:59
S120	76	(interact\$4 or manipul\$3 or navigat\$3 or action) near6 (document or application) near4 ((chat adj bot) or (virtual adj agent) or (virtual adj assistance))	US-PGPUB; USPAT	OR	ON	2020/03/24 11:59
S121	5	("20100138239" "20120084096" "20140013199" "20140324477" "6826727").PN.	US-PGPUB; USPAT	OR	OFF	2020/03/24 12:05
S122	75	(natural near3 language or chat near bot) near4 (interact\$4 or manipul\$3 or navigat\$3 or fill\$3 or complet\$3) near4 (document)	US-PGPUB; USPAT	OR	ON	2020/03/24 12:05
S132	1,391	(natural near language or (chat adj bot) or (virtual adj agent) or (virtual adj assistance) or smart adj speaker or voice or vocal or speech) with (smart near4 (document or application))	US-PGPUB; USPAT	OR	ON	2020/03/24 12:15
S134	313	(smart near4 (document or application)) with (voice or vocal or speech) with (input or command)	US-PGPUB; USPAT	OR	ON	2020/03/24 12:15

S135	54	(smart near4 (document or application)) with (voice or vocal or speech) with (input or command) with (navigat\$4 or manipulats\$3 or fill\$3 or hover\$3 or click\$3 or select\$4 or scroll\$3 or flip\$3 or highlight\$3)	US-PGPUB; USPAT	OR	ON	2020/03/24 12:17
S136	7	("20120265528" "20100077085" "20120016678" "20050203757" "20130019320" "6636831" "7921156" "20050203757" "7921156").PN.	US-PGPUB; USPAT	OR	ON	2020/03/24 12:18
S137	13	("20010032244" "8335825" "20120072440" "7305350" "8271509" "20130332537" "20120036245" "20120036245" "7263526" "20030037110" "20090234926" "8335495" "20010054064" "20100076837" "20010032244" "20090234926" "7305350" "8271509" "8335495").PN.	US-PGPUB; USPAT	OR	ON	2020/03/24 12:18
S138	7	("20120265528" "20100077085" "20120016678" "20050203757" "20130019320" "6636831" "7921156" "20050203757" "7921156").PN.	US-PGPUB; USPAT	OR	ON	2020/03/24 12:20
S139	10	("20120150922" "20100125456" "20130110519" "6952665" "20130198360" "20110035452" "20120271640" "7103553" "20090248587" "10042836").PN.	US-PGPUB; USPAT	OR	OFF	2020/03/24 12:20
S140	1	"20140249830".pn.	US-PGPUB; USPAT	OR	OFF	2020/03/25 12:08
S141	1	"20180137178".pn.	US-PGPUB; USPAT	OR	OFF	2020/03/25 13:33
S142	0	convers\$3 with chat near3 bot with (webpage or web near page)	US-PGPUB; USPAT	OR	ON	2020/08/14 09:42
S143	23	(conversation or natural near language) same chat near3 bot same (webpage or web near page)	US-PGPUB; USPAT	OR	ON	2020/08/14 09:43
S144	16	("20090007011" "7027975" "9369410" "20150142704" "7027975" "20090070113" "8346563" "20150142704" "8346563" "8001469" "20100005081" "9472185" "20150014270" "20160343378" "20170116982" "8719200" "9043407" "20100005081" "20140343950" "9472185" "20140034395").PN.	US-PGPUB; USPAT	OR	ON	2020/08/14 10:06

S145	26	("20020133347" "20030046689" "20030182391" "20040162724" "20040210661" "20050015350" "20060069546" "20060150119" "20060155765" "20070203693" "20140297568" "6570555" "8001250" "8311513" "8630961" "8719200").PN. OR ("9369410").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/08/14 10:13
S146	6	"20180239837".pn. "8949377".pn. "20080089490".pn. "9042540".pn. "7962578".pn. "20190103111".pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/08/14 10:50
S147	1	(chat\$bot or chat near2 bot or conversational near2 agent) with (communicat\$3 or convers\$4) with (natural\$language or natural near2 language) with (help\$3 or assist\$3 or process\$3 or execut\$3) with (navigat\$3 or fill\$3 near out or hover\$3 or click\$3 or redirect\$3) with (page or webpage or GUI or user adj interface or web)	US-PGPUB; USPAT; USOCR	OR	ON	2020/08/14 11:30
S148	95	(chat\$bot or chat near2 bot or conversational near2 agent) with (communicat\$3 or convers\$4) with (natural\$language or natural near2 language)	US-PGPUB; USPAT; USOCR	OR	ON	2020/08/14 11:32
S149	1	"20170366479".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2020/08/14 11:34
S150	1	16/358467.app.	US-PGPUB; USPAT; USOCR	OR	ON	2020/08/14 11:43
S151	29	("20120260263" "8326928" "8825735" "8660244" "20070172063" "20080288467" "20090055485" "7437292" "7752554" "8204984" "20030182391" "8250192" "20080025328" "7747785" "7949869" "8027839" "20070043878" "20100122082" "8769028" "20170324866" "7287057" "7870199" "9043407" "20170324868" "20160322050" "20030220972" "20090234638" "8352873" "8787553").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2020/08/14 11:55
S152	17	("6158011" "7043230" "20030163739" "20050010811" "20030217105" "5311596" "20030093480" "6874090"	US-PGPUB;	OR	ON	2020/08/14 13:28

		"6496932" "20020004831" "6894999" "6574628" "6401080" "20050193203" "20030163739" "20030093480" "20040073795" "6580718" "6477578").PN.	USPAT; USOCR			
S153	104	bank near4 bot	US- PGPUB; USPAT; USOCR	OR	ON	2020/08/14 13:29
S154	19	("20170324866" "20190215282" "20190370629" "20080307038" "20160300570" "20200099633" "20160100130" "20160300570" "20170324867" "20010048449" "20020198009" "20180025726" "9794199" "20160308799" "9794199" "20170230312" "20160360039" "20180090137" "20170230312" "20170180284" "20170358296" "20160352656").PN.	US- PGPUB; USPAT; USOCR	OR	ON	2020/08/14 13:32
S156	5	((website or webpage or web) near3 bank) near4 bot	US- PGPUB; USPAT; USOCR	OR	ON	2020/08/14 15:09
S157	3	(website or webpage or web) near4 automation near4 bot	US- PGPUB; USPAT; USOCR	OR	ON	2020/08/14 15:11
S158	118	(website or webpage or web) near4 (chat or conversation) near4 bot	US- PGPUB; USPAT; USOCR	OR	ON	2020/08/14 15:12
S159	9	("20080294619" "20170116982" "20170230312" "20170310613" "6418440" "8630961" "8930296" "9369410" "9372858").PN.	US- PGPUB; USPAT; USOCR	OR	ON	2020/08/14 15:19
S160	17	("20160110071" "20190236137" "20120296638" "20190188326" "20120232885" "20180039695" "8566102" "20190147029" "20170116982" "20180246877" "20160342702" "20170116982" "20120245944" "20180365567" "20190228099" "7783642" "9548050" "20170147554").PN.	US- PGPUB; USPAT; USOCR	OR	ON	2020/08/14 15:23
S161	21	("20030182391" "20050102065" "20050125370" "20070043878" "20070168480" "20090281966" "20110078105" "20160352658"	US- PGPUB; USPAT; USOCR	OR	OFF	2020/08/14 16:41

		"20170048170" "20170357638" "20180039618" "20180083894" "20180083898" "20180083901" "20180102989" "20180107461" "20180109526" "20180210874" "6363301" "6754647" "9959868").PN. OR ("10333868").URPN.				
S162	3	(chat\$bot or chat near2 bot or conversational near2 agent) with (communicat\$3 or convers\$4) with (natural\$language or natural near2 language) with (navigat\$3 or interaction or fill\$3 near out or hover\$3 or click\$3 or redirect\$3 or highlight\$3 or focus\$3) with (page or webpage or GUI or user adj interface or web or form)	US- PGPUB; USPAT; USOCR	OR	ON	2020/08/14 17:50
S163	10	("10218649" "20130275164" "9031586" "10068174" "20150348551" "9031216" "10116596" "20090006391" "20130297317" "20030182391").PN.	US- PGPUB; USPAT	OR	OFF	2020/08/17 09:34
S164	21	("20030097301" "20030182391" "20070016585" "20070174244" "20070219901" "20080263458" "20090006333" "20090254417" "20090276400" "20090313115" "20100114684" "20100180217" "20100274796" "20110151899" "20130167044" "20140074951" "20140136506" "20140255895" "7603413" "9031216").PN. OR ("10218649").URPN.	US- PGPUB; USPAT; USOCR	OR	OFF	2020/08/17 09:39
S165	12	(chatbot near7 (hover\$3 or click\$3 or manipulat\$3)) near4 (user adj interface or object or UI or application or webpage or web)	US- PGPUB; USPAT; USOCR	OR	OFF	2020/08/17 09:45
S166	7	("10542077" "20080120380" "20090077212" "20160226829" "20160232339" "20170078448" "20170329466").PN.	US- PGPUB; USPAT; USOCR	OR	OFF	2020/08/17 09:49
S167	150	("20010044791" "20020072951" "20020082892" "20020129352" "20020140731" "20020143997" "20020162090" "20020165742" "20030004971" "20030018705" "20030018830" "20030066031" "20030066032" "20030069936" "20030070000" "20030070004" "20030070005" "20030074418" "20030120675" "20030151633" "20030159136" "20030187921"	US- PGPUB; USPAT; USOCR	OR	OFF	2020/08/17 09:55

		"20030189600" "20030204427" "20030206192" "20030225730" "20040001092" "20040010489" "20040015981" "20040027388" "20040128001" "20040186860" "20040193510" "20040199489" "20040199536" "20040199543" "20040249854" "20040260534" "20040260659" "20040268299" "20050050555" "20050091098" "20060021019" "20080249972" "20090063414" "20090100342" "20090177744" "20110247051" "20120042218" "20120218958" "20120233137" "20130212497" "20130218948" "20130218949" "20130218966" "20130247216" "5577188" "5608872" "5649104" "5715450" "5761419" "5819038" "5821937" "5831610" "5873096" "5918159" "5963953" "6092083" "6161149" "6169534" "6178425" "6189011" "6216135" "6233617" "6266669" "6295530" "6324568" "6324693" "6336137" "6367077" "6393605" "6405220" "6434550" "6446089" "6535909" "6549908" "6553563" "6560461" "6574635" "6577726" "6601087" "6604117" "6604128" "6609150" "6621834" "6654032" "6665648" "6665655" "6684438" "6711565" "6724399" "6728702" "6728960" "6732095" "6732100" "6732111" "6754681" "6763351" "6763501" "6768904" "6772229" "6782383" "6804330" "6826565" "6826582" "6826745" "6829655" "6842748" "6850895" "6850949" "7062502" "7069231" "7181758" "7289976" "7340411" "7356482" "7401094" "7412455" "7508789" "7620655" "7698160" "7730478" "7779475" "8014943" "8015495" "8032297" "8082301" "8095413" "8095594" "8209308" "8275836" "8457545" "8484111" "8490025" "8504945" "8510045" "8510664" "8566301" "8646103" "D454139").PN.				
S168	5,065	(chatbot or chat-bot or chat near bot or robot) near7 (interact\$3 or hover\$3 or click\$3 or manipul\$3 or typing or	US-PGPUB; USPAT;	OR	ON	2020/08/17 09:58

		entering or fill or filling) near4 (user adj interface or object or UI or application or webpage or website or web or form or document or electronic adj2 form)	EPO; JPO; IBM_TDB			
S169	3,420	(chatbot or chat-bot or chat near bot or robot) near3 (interact\$3 or hover\$3 or click\$3 or manipul\$3 or typing or entering or fill or filling) near4 (user adj interface or object or UI or application or webpage or website or web or form or document or electronic adj2 form)	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/17 10:01
S170	114	S169 and G06F3/048\$.CPC.	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/17 10:04
S171	5	("20190347142" "20190132264" "20190228068" "20190132264" "20190392285" "20190171758").PN.	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/17 10:18
S172	1,050	(chatbot or chat-bot or chat near bot or robot) near7 (interact\$3 or hover\$3 or click\$3) near4 (element or UI or object)	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/18 10:18
S173	71	(chatbot or chat-bot or chat near bot) near7 (interact\$3 or hover\$3 or click\$3) near4 (element or UI or object or user adj interface)	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/18 10:19
S174	12	(chatbot or chat-bot or chat near bot) with (fill\$3 or highlight\$3) with (form or field or box) with (application or webpage or user adj interface or form or PDF)	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/18 10:40
S175	19	("20120041903" "20150066479" "20180097749" "20150178371" "20170116173" "20130317826" "20050022106" "20140122619" "20160308795" "20180314689" "20160042359" "20130268260" "20180240135" "20140279050" "20160099843" "20170116173" "20180025726" "20170344532" "20130275875" "20080275694").PN.	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/18 10:47
S176	7	"10530718".pn. "20190147029".pn. "10121186".pn. "20180217970".pn. "20170236196".pn.	US-PGPUB; USPAT;	OR	ON	2020/08/18 10:53

			EPO; JPO; IBM_TDB			
S177	7	("20130262574" "20180095940" "20180121394" "20190034395" "8938669" "9348803" "9456012").PN. OR ("10530718").URPN.	US- PGPUB; USPAT; USOCR	OR	OFF	2020/08/18 11:32
S178	54	(chatbot or chat-bot or chat near bot) same (fill\$3 or highlight\$3 or flag\$3) same (form or field or box or element or object) same (application or webpage or user adj inteface or form or PDF)	US- PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/18 12:11
S179	2	"20180143758".PN. "20040226002".PN.	US- PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/18 13:50
S180	7	("20180143758" "20040226002" "20140195621" "20180239837" "20140019884" "20080005269" "20190130073").PN.	US- PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/18 13:54
S181	8	"20120221331".pn. "20190147029".pn. "8718242".pn. "20190332358".pn. "10217462".pn. "20200034399".pn. "20200226663".pn. "20090187410".pn.	US- PGPUB; USPAT	OR	OFF	2020/08/18 14:58
S182	1	16/358467.app.	US- PGPUB; USPAT	OR	OFF	2020/08/18 15:11
S183	1	"8462917".pn.	US- PGPUB; USPAT	OR	OFF	2020/08/18 15:28
S184	79	("20010056479" "20020078140" "20020128821" "20020164000" "20030012183" "20030012344" "20030078779" "20030078987" "20030093428" "20030200094" "20040128136" "20040205614" "20050076089" "20050131625" "20050135571" "20050182770" "20070226198" "20090292529" "20100098224" "20120221331" "5913193" "5915001" "6173263" "6233544" "6266637" "6311182" "6345250" "6366883" "6401094" "6456699" "6466654" "6505158" "6539080" "6567745" "6570974" "6587786" "6587822" "6604075" "6604090" "6615177" "6624803" "6633846" "6636504" "6662340"	US- PGPUB; USPAT; USOCR	OR	OFF	2020/08/18 15:28

		"6807529" "6832196" "6859776" "6859910" "6895084" "6925288" "6934684" "6944592" "6983307" "6996609" "7038807" "7099453" "7143042" "7146323" "7177862" "7197460" "7200677" "7222074" "7275086" "7366766" "7373300" "7434162" "7437357" "7487440" "7577593" "7580842" "7609829" "7660400" "7869998" "8060369" "8065151" "8090583" "8175230").PN. OR ("8462917").URPN.				
S186	5	(webpage near5 (dialog or conversation)) near6 (fill\$3 with field)	US- PGPUB; USPAT	OR	ON	2020/08/19 11:12
S187	68	(webpage near5 (dialog or conversation)) near6 (chatbot or bot or agent)	US- PGPUB; USPAT	OR	ON	2020/08/19 11:13
S188	5	("20130226925" "20150026155" "20150364057" "20150378975" "20160350336").PN. OR ("10558693").URPN.	US- PGPUB; USPAT; USOCR	OR	OFF	2020/08/19 11:22
S189	13	(webpage near5 (dialog or conversation)) same (fill\$3 with field)	US- PGPUB; USPAT	OR	ON	2020/08/19 11:24
S190	549	(webpage or document or website or browser or application) same (dialog or conversation or chatbot or chat\$bot or chat near bot) same (fill\$3 with field)	US- PGPUB; USPAT	OR	ON	2020/08/19 11:27
S191	552	(webpage or document or website or browser or application) same (dialog or conversation or chatbot or chat\$bot or chat near bot) same (fill\$3 with field)	US- PGPUB; USPAT	OR	ON	2020/08/19 11:27
S192	44	S191 and G06F3/048\$.CPC.	US- PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/19 11:32
S193	32	S191 and G06F40/174.cpc.	US- PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/19 11:41
S196	29,327	(webpage or document or website or browser or application) near7 (conversation or chatbot or chat\$bot or chat near bot or natural adj language)	US- PGPUB; USPAT	OR	ON	2020/08/19 11:43

S197	32	S193 and G06F40/174.cpc.	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/19 11:43
S198	40	(chatbot or chat\$bot or chat near bot or natural adj language) near4 (fill\$4 near3 (form or field))	US-PGPUB; USPAT	OR	ON	2020/08/19 11:50
S199	58	(chatbot or chat\$bot or chat near bot or virtual adj agent or non\$humand adj agent) same (fill\$4 near4 (form or field))	US-PGPUB; USPAT	OR	ON	2020/08/19 12:01
S200	20	("20160110071" "20190188326" "20180039695" "20190147029" "20120245944" "20180365567" "7783642" "20160342702" "20170116982" "20190228099" "20130246435" "20120232885" "20170147554" "20190236137" "8566102" "20180246877" "20080114800" "9548050" "20120296638" "20120150838").PN.	US-PGPUB; USPAT	OR	ON	2020/08/19 12:06
S201	1	16/358467.app.	US-PGPUB; USPAT	OR	OFF	2020/08/20 15:31
S202	8	(Nahum near3 Nir).inv.	US-PGPUB; USPAT	OR	OFF	2020/08/20 15:32
S203	1	(Sasson near3 Shlomi).inv.	US-PGPUB; USPAT	OR	OFF	2020/08/20 15:32
S204	14	("20100251128" "20160171119" "20150339942" "20020194164" "8024660" "20110185288" "20140310596" "20120317481" "20140068498" "8984441" "20120022951" "20150310488" "20070300174" "20080313149").PN.	US-PGPUB; USPAT	OR	OFF	2020/08/20 15:32
S205	874	(webpage or document or website or browser or application) near5 (chatbot or chat\$bot or chat near bot or virtual adj assistance)	US-PGPUB; USPAT	OR	ON	2020/08/20 15:36
S206	5	(webpage or document or website or browser or application) near5 (chatbot or chat\$bot or chat near bot or virtual adj assistance) near5 (convers\$4 or messag\$4 or talk\$3 or help\$3) near5 (action or activit\$3 or task or interaction)	US-PGPUB; USPAT	OR	ON	2020/08/20 15:38

S207	7	("20080010259" "20120016678" "20120303273" "20140331176" "20150198452" "20170103088" "20190003849").PN. OR ("10749823").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/08/20 15:41
S208	102	(webpage or document or website or browser or application) same (chatbot or chat\$bot or chat near bot or virtual adj assistance) same (convers\$4 or messag43 or talk43 or help\$3) same (action or activit\$3 or task or interaction)	US-PGPUB; USPAT	OR	ON	2020/08/20 15:45
S209	47	S208 and @ad<"20171105"	US-PGPUB; USPAT	OR	OFF	2020/08/20 15:47
S210	40	("7295664" "6466654" "20040128136" "20070226198" "7366766" "7373300" "6539080" "6604075" "20010056479" "20030012344" "7146323" "7222074" "20030035519" "6570974" "20050135571" "6807529" "6895084" "7275086" "6624803" "6633846" "20030078779" "7437357" "20030078987" "6925288" "7177862" "20020161647" "20050182770" "6311182" "20020164000" "6567745" "6587786" "6587822" "6615177" "20040205614" "6401094" "6996609" "20020128821" "5915001" "7143042" "7487440").PN.	US-PGPUB; USPAT	OR	ON	2020/08/20 15:59
S211	58	(chatbot or chat\$bot or chat near bot or virtual adj agent or (non\$human or robotic) adj agent) same (fill\$4 near4 (form or field))	US-PGPUB; USPAT	OR	ON	2020/08/20 16:00
S212	120	S205 and (G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279).CPC.	US-PGPUB; USPAT	OR	ON	2020/08/20 16:01
S213	9	S205 and G06F40/174.cpc.	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/20 16:02
S214	6	("20060112123" "20130110803" "20130110810" "7613719" "8145990" "8935277").PN.	US-PGPUB; USPAT	OR	OFF	2020/08/20 16:03
S215	48	(conversation or chata\$3 or communication or messag\$3) with (chat adj bot or chat\$bot or chat near bot or virtual adj	US-PGPUB; USPAT	OR	ON	2020/08/20 16:06

		agent or virtual adj assistance) with (web or webpage or website or user adj interface) with (form or input adj field or data adj entry)				
S216	102	(conversation or chat\$3 or communicat\$4 or messag\$3) with (chat adj bot or chat\$bot or chat near bot or virtual adj agent or virtual adj assistance) with (web or webpage or website or user adj interface) with (form or input adj field or data adj entry)	US-PGPUB; USPAT	OR	ON	2020/08/20 16:07
S217	23	(conversation or chat\$3 or communicat\$4 or messag\$3) with (chat adj bot or chat\$bot or chat near bot or virtual adj agent or virtual adj assistance) with (web or webpage or website or user adj interface) with ((fill\$3 or complet\$3 or input\$2) near3 (form or input adj field) or data adj entry)	US-PGPUB; USPAT	OR	ON	2020/08/20 16:08
S219	1	"9922008".pn.	USPAT	OR	OFF	2020/08/20 16:51
S220	17	("6158011" "7043230" "20030163739" "20050010811" "20030217105" "5311596" "20030093480" "6874090" "6496932" "20020004831" "6894999" "6574628" "6401080" "20050193203" "20030163739" "20030093480" "20040073795" "6580718" "6477578").PN.	US-PGPUB; USPAT	OR	OFF	2020/08/20 17:24
S221	22	("6624803" "6633846" "20030078779" "7437357" "20030078987" "6925288" "7177862" "20020161647" "20050182770" "6311182" "20020164000" "6567745" "6587786" "6587822" "6615177" "20040205614" "6401094" "6996609" "20020128821" "5915001" "7143042" "7487440").PN.	US-PGPUB; USPAT	OR	ON	2020/08/20 17:35
S222	10	("20050042593" "20070015118" "20070239760" "20080288922" "7506248" "7546585" "7555743" "7617519" "8065610" "8717383").PN. OR ("9922008").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/08/20 17:35
S223	20	("20050055210" "20050203751" "20110060587" "20020091528" "20120166178" "20130152092" "20150242385" "7266537" "8311835" "20140297282" "20040083092" "20080082329" "6999930" "7228275" "2009150156" "8024196" "20110060587" "20130268260"	US-PGPUB; USPAT	OR	OFF	2020/08/20 19:01

		"20140380285" "8024196" "20140297282" "20150242385" "6868385" "7647225" "20020091528" "8332218").PN.				
S224	1	16/358467.app.	US- PGPUB; USPAT	OR	OFF	2020/08/25 16:58
S227	21	script\$2 near5 chatbot	US- PGPUB; USPAT	OR	OFF	2020/08/25 17:10
S229	10	("20070239760" "7555743" "20080288922" "20070015118" "8065610" "20080288922" "7546585" "7617519" "8717383" "20070015118" "7506248" "20050042593" "20070239760" "20050042593").PN.	US- PGPUB; USPAT	OR	OFF	2020/08/25 17:26
S230	1	"20070172063".pn.	US- PGPUB; USPAT	OR	OFF	2020/08/25 17:31
S231	3	chatbot with sequenc\$4 with automat\$4	US- PGPUB; USPAT	OR	OFF	2020/08/25 17:32
S232	1	15/395543.app.	US- PGPUB; USPAT	OR	OFF	2020/08/25 17:57
S233	31	("10051103" "20170324868" "20180158068" "20120203846" "20120042263" "20130166275" "20140244744" "20150347432" "20170098284" "20170236196" "20140081636" "20140143683" "20130129076" "20140237057" "20180174020" "20130080928" "20180052928" "20130311621" "20160117740" "20170076264" "20120290950" "20120084811" "20140258032" "10332170" "9191615" "20180150524" "20130232204" "20170324867" "20100030578" "20150254675" "20150163358").PN.	US- PGPUB; USPAT	OR	OFF	2020/08/25 18:08
S236	1	chatbot same imitat\$3 same interaction	US- PGPUB; USPAT	OR	OFF	2020/08/25 18:16
S240	1	"20170329466".pn.	US- PGPUB; USPAT	OR	OFF	2020/08/26 07:52

S241	23	HR adj2 chatbot	US-PGPUB; USPAT	OR	OFF	2020/08/26 07:55
S242	42	form adj2 chatbot	US-PGPUB; USPAT	OR	OFF	2020/08/26 07:58
S248	126	(website or web or webpage) same chatbot near5 (click\$3 or hover\$3 or select\$4 or interact\$3 or manipulat\$3)	US-PGPUB; USPAT	OR	OFF	2020/08/26 09:26
S249	18	(website or web or webpage) same chatbot near5 (click\$3 or hover\$3 or select\$4 or interact\$3 or manipulat\$3 or fill\$3) near5 (user adj interface or UI or element or menu or form or input adj field or object)	US-PGPUB; USPAT	OR	OFF	2020/08/26 09:28
S253	6	chatbot with (fill\$up or fill\$4) with (form or field)	US-PGPUB; USPAT	OR	OFF	2020/08/26 09:35
S254	52	chatbot same (fill\$up or fill\$4 or complet\$3) same (form or field)	US-PGPUB; USPAT	OR	OFF	2020/08/26 09:36
S255	2	("20170293681" "20170330077").PN.	US-PGPUB; USPAT	OR	OFF	2020/08/26 09:48
S256	2	"20180143758".pn. "20040226002".pn.	US-PGPUB; USPAT	OR	OFF	2020/08/26 09:58
S257	19	("20010037265" "20140341369" "20120016678" "20170249592" "20120016678" "20170249592" "20130275164" "20110057029" "20150286943" "20120059896" "20150286943" "20130007648" "20160112362" "20130110518" "20130268260" "20140058967" "20170242852" "6366925" "7558782" "20150310446" "20170011383" "20180181922").PN.	US-PGPUB; USPAT	OR	OFF	2020/08/26 10:18
S258	5	chatbot with (fill\$up or fill\$4 or complet\$3) with (form or field) with (data or value or information)	US-PGPUB; USPAT	OR	OFF	2020/08/26 10:45
S259	2	chatbot with (activat\$3 or interact\$3) with (pointer or cursor or mouse)	US-PGPUB; USPAT	OR	OFF	2020/08/26 10:46
S260	29	chatbot near4 input\$3 near4 data	US-PGPUB; USPAT	OR	OFF	2020/08/26 10:48

S261	6	("20140250195" "20150161615" "20180068365" "20190034828" "20190140986" "20190149489").PN.	US-PGPUB; USPAT	OR	OFF	2020/08/26 10:51
S263	7	("20080010259" "20120016678" "20120303273" "20140331176" "20150198452" "20170103088" "20190003849").PN. OR ("10749823").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2020/08/26 11:00
S264	3	"9213687".pn. "20140279050".pn.	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/26 11:42
S265	1	"20160110502".pn.	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2020/08/26 11:43
S271	3	"20190243889".pn. "20190220727".pn. "20140122056".pn.	US-PGPUB; USPAT	OR	OFF	2020/08/26 12:09
S272	41	("20120120184" "20140337048" "20190311792" "20040109470" "20130167025" "20130212501" "20170000422" "9591996" "20140278605" "6665647" "8771206" "10628635" "20110126207" "20120075464" "20140171834" "20160253890" "20190259475" "20120229634" "20130127620" "7233872" "20190385749" "20170337274" "20190116212" "20020196944" "20140128691" "20150109442" "20090094285" "20180189756" "20050035862" "20070238936" "20120025989" "20130237395" "20130289449" "20140243686" "20160217264" "20120179067" "20140148733" "20140232600" "20160267327" "20170147154" "20190282130").PN.	US-PGPUB; USPAT	OR	OFF	2020/08/26 12:21
S273	1	16/358467.app.	US-PGPUB; USPAT	OR	OFF	2020/08/26 12:30
S274	2	"9947319".pn. "8630961".pn.	US-PGPUB; USPAT	OR	OFF	2020/08/26 12:37

S275	2	"20190068527".pn. "20070172063".pn.	US-PGPUB; USPAT	OR	OFF	2020/08/26 13:32
S276	4	chatbot near3 (simulat\$3 or imitat\$3) near4 (hover\$3 or click\$3 or focus\$3 or fill\$4 or interact\$4)	US-PGPUB; USPAT	OR	OFF	2020/08/26 14:44
S277	11	(chat near bot or chat\$bot or chatbot) near3 (simulat\$3 or imitat\$3) near4 (hover\$3 or click\$3 or focus\$3 or fill\$4 or interact\$4)	US-PGPUB; USPAT	OR	OFF	2020/08/26 14:44
S287	1	17/026305.app.	US-PGPUB; USPAT	OR	ON	2021/03/27 10:23
S289	22	("20060129379" "20180349556" "20070172063" "20190138600" "20050210061" "9509799" "10749823" "20160352658" "20170289071" "20180137178" "20120265528" "20140115456" "20170293610" "20160300570" "20190068527" "20190103111" "20160094492" "20190043106" "20030058369" "20120016678" "20140249830" "20180183735").PN.	US-PGPUB; USPAT	OR	OFF	2021/05/06 16:31
S290	1	17/026305.app.	US-PGPUB; USPAT	OR	OFF	2021/05/06 16:34
S291	16	((("NAHUM") near3 ("Nir")) OR (("SASSON") near3 ("Shlomi"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2021/05/06 16:35
S292	1	"20180137178".pn.	US-PGPUB; USPAT	OR	OFF	2021/05/06 16:48
S293	2	"20180349556".pn. "20140249830".pn.	US-PGPUB; USPAT	OR	OFF	2021/05/06 16:55
S294	2	(chatbot near4 builder) with (parameter or input near field)	US-PGPUB; USPAT	OR	OFF	2021/05/06 17:23
S295	6	("20120041903" "20140122618" "20180107461" "20190034409" "20190132264" "20190182382").PN.	US-PGPUB; USPAT	OR	OFF	2021/05/06 17:26
S296	3	(chatbot near4 build\$4) near7 (parameter or input near3 field or value)	US-PGPUB; USPAT	OR	ON	2021/05/06 18:08

S297	51	(chatbot or bot) with (build\$4 or publish) with (parameter or input near3 field or value)	US-PGPUB; USPAT	OR	ON	2021/05/06 18:10
S298	2	"20180349556".pn. "20140249830".pn.	US-PGPUB; USPAT	OR	ON	2021/05/06 18:22
S299	1	"9247029".pn.	US-PGPUB; USPAT	OR	ON	2021/05/07 09:58
S300	11	(build\$4 or publish\$4) with (chat same (bot)) with conversation	US-PGPUB; USPAT	OR	OFF	2021/06/03 14:42
S302	4	(build\$4 or publish\$3) same (conversation or chat\$4) same (chatbot or bot) same (parameter near5 value)	US-PGPUB; USPAT	OR	ON	2021/06/03 14:49
S303	2	"20140351744".pn. "20120204191".pn.	US-PGPUB; USPAT	OR	ON	2021/06/03 15:00
S304	6	("20120041903" "20140122618" "20180107461" "20190034409" "20190132264" "20190182382").PN.	US-PGPUB; USPAT	OR	ON	2021/06/03 15:12
S305	6	16/136284.app. or 16/136293.app. or 16/132491.app. or "10478734".pn. or "10857462".pn. or "8684840".pn.	US-PGPUB; USPAT	OR	ON	2021/06/03 15:39
S306	1	17/026305.app.	US-PGPUB; USPAT	OR	ON	2021/06/03 17:03
S307	1	"20180137178".pn.	US-PGPUB; USPAT	OR	ON	2021/06/03 17:20
S308	1	16/358467.app.	USPAT	OR	ON	2021/06/03 17:58
S309	4	"10277743".pn. "20180189347".pn. "20190037077".pn. "10897539".pn.	US-PGPUB; USPAT	OR	ON	2021/06/04 10:22
S312	446	(chatbot or bot) with (add\$3 or insert\$4 or fill\$3) with (field or entry or form)	US-PGPUB; USPAT	OR	ON	2021/06/04 13:42
S313	56	(chatbot or bot) with (add\$3 or insert\$4 or fill\$3) with (field or entry or form) with (value or parameter)	US-PGPUB; USPAT	OR	ON	2021/06/04 13:42
S314	10	(arnon near3 mazza).inv.	US-PGPUB; USPAT	OR	ON	2021/06/04 15:29

S315	16	form-fill\$3 with (chatbot or bot)	US-PGPUB; USPAT	OR	ON	2021/06/04 15:33
S317	1,344	(form-fill\$3 or input\$4 or field or entry or enter or fill\$3) with (value or parameter) with (chatbot or bot)	US-PGPUB; USPAT	OR	ON	2021/06/04 15:35
S318	834	S317 and @ad<"20171105"	US-PGPUB; USPAT	OR	OFF	2021/06/04 15:36
S320	43	S318 and (H04L51/02 OR G06F40/134 OR G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279).CPC.	US-PGPUB; USPAT	OR	ON	2021/06/04 15:37
S321	5	(form-fill\$3 or (data or input\$4) near3 (form or field or entry or enter\$3 or fill\$3)) with (value near5 parameter) with (chatbot or bot)	US-PGPUB; USPAT	OR	ON	2021/06/04 15:48
S322	986	(form-fill\$3 or (data or input\$4) near3 (form or field or entry or enter\$3 or fill\$3)) with (chatbot or bot)	US-PGPUB; USPAT	OR	ON	2021/06/04 15:50
S323	555	S322 and @ad<"20171105"	US-PGPUB; USPAT	OR	OFF	2021/06/04 16:01
S324	91	S323 and (H04L51/02 OR G06F40/134 OR G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279).CPC.	US-PGPUB; USPAT	OR	ON	2021/06/04 16:01
S325	72	S323 and (H04L51/02).CPC.	US-PGPUB; USPAT	OR	ON	2021/06/04 16:01
S326	16	((("NAHUM") near3 ("Nir")) OR ((("SASSON") near3 ("Shlomi")))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2021/06/04 17:07
S327	10	(build\$4 or publish\$3 or develop\$3) same (conversation or chat\$4 or dialogue) same (chatbot or bot) same (parameter near5 value)	US-PGPUB; USPAT	OR	ON	2021/06/04 17:09
S328	13	(build\$4 or publish\$3 or develop\$3) same (conversation or chat\$4 or dialogue) same (chatbot or bot) same (parameter near5 (data or value))	US-PGPUB; USPAT	OR	ON	2021/06/04 17:09

S329	15	("20100169792" "20100251128" "20160171119" "20150339942" "20020194164" "8024660" "20110185288" "20140310596" "20120317481" "20140068498" "8984441" "20120022951" "20150310488" "20070300174" "20080313149").PN.	US-PGPUB; USPAT	OR	OFF	2021/06/04 17:10
S330	30	("20170324868" "20180158068" "20120203846" "20120042263" "20130166275" "20140244744" "20150347432" "20170098284" "20170236196" "20140081636" "20140143683" "20130129076" "20140237057" "20180174020" "20130080928" "20180052928" "20130311621" "20160117740" "20170076264" "20120290950" "20120084811" "20140258032" "10332170" "9191615" "20180150524" "20130232204" "20170324867" "20100030578" "20150254675" "20150163358").PN.	US-PGPUB; USPAT	OR	OFF	2021/06/04 17:10
S331	3	("20110321008" "20130254139" "20170084273").PN.	US-PGPUB; USPAT	OR	OFF	2021/10/14 11:08
S332	1	17/026305.app.	US-PGPUB; USPAT	OR	OFF	2021/10/14 11:19
S333	16	((("NAHUM") near3 ("Nir")) OR ((("SASSON") near3 ("Shlomi")))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2021/10/14 11:20
S334	33	(build\$4 or defin\$4) with (chatbot or bot or intelligent near assist\$4) with (parameter\$4 near4 (process or operation or input\$3))	US-PGPUB; USPAT	OR	OFF	2021/10/14 11:22
S335	33	(build\$4 or defin\$4) with (chatbot or bot or intelligent near assist\$4) with (parameter\$4 near4 (process or operation or input\$3))	US-PGPUB; USPAT	OR	ON	2021/10/14 11:23
S336	13	("10009465" "10498674" "10680986" "11012384" "20100070448" "20150100943" "20170019487" "20170147297" "20170230312" "20180322380" "20190182184" "20200143797" "20200150839").PN.	US-PGPUB; USPAT	OR	ON	2021/10/14 11:44

S337	24	("10594635" "10680986" "20040078444" "20050086309" "20060129455" "20120215871" "20130262309" "20140122619" "20170048170" "20180196796" "20180219921" "20180322380" "20180324116" "20180331980" "20190034409" "20190068527" "20190124020" "20190182184" "20190325868" "20200097221" "20200143797" "20200342873" "20200342874" "20200344186").PN. OR ("11012384").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/10/14 11:49
S338	11	("20170270431" "9369410" "20170269972" "9401989" "9736088" "7454469" "7039654" "7861252" "20170308811" "20170237692" "9264393" "9369410").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/10/14 12:07
S339	2	"20200169559".pn. "20150113449".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2021/10/14 14:32
S341	2	"20180107461".pn. "20180090141".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2021/10/14 16:43
S342	47	(build\$3 or built or defin\$4) with (auto\$5 near4 (process or operation)) with (chatbot or chat near bot or bot or (digital or intelligent) near assistant)	US-PGPUB; USPAT; USOCR	OR	ON	2021/10/14 16:49
S343	10	(chatbot or chat\$bot or bot or (digital or intelligent) near assist\$4) with simulat\$3 near4 (interaction or input\$3) with (GUI or user adj interface or form or input near field or content or document)	US-PGPUB; USPAT	OR	OFF	2021/10/18 13:13
S344	5	("20180173205" "20180275858" "20150029195" "20130346842" "20180225077").PN.	US-PGPUB; USPAT	OR	ON	2021/10/18 14:32
S345	1	(defin\$4 or build\$3) with (conversation or chat\$3 or dialog) with (chatbot or chat\$bot or bot or (digital or intelligent) near assist\$4) with simulat\$3 near4 (interaction or input\$3) with (GUI or user adj interface or form or input near2 field or content or document)	US-PGPUB; USPAT	OR	OFF	2021/10/20 21:07
S346	127	(defin\$4 or build\$3) same (conversation or chat\$3 or dialog) same(chatbot or chat\$bot or bot or (digital or intelligent) near assist\$4) same (interaction or	US-PGPUB; USPAT	OR	OFF	2021/10/20 21:49

		input\$3) with (GUI or user adj interface or form or input near2 field or content or document)				
S347	83	S346 and (H04L51/02 OR G06F40/134 OR G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279).CPC.	US-PGPUB; USPAT	OR	OFF	2021/10/20 21:50
S348	19	("10025567" "20150350443" "20170213157" "20170279906" "20170286269" "20170315714" "20170344622" "20180054400" "20180054523" "20180300311" "20180308476" "20180358006" "20180359198" "20190042561" "20190043106" "20190124020" "20190132264" "7881440" "9961191").PN. OR ("10839798").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2021/10/20 21:52
S349	216	(chatbot or chat\$bot or bot or (digital or intelligent) near assist\$4) with (automation near3 process)	US-PGPUB; USPAT	OR	OFF	2021/10/20 21:55
S350	8	(chatbot or chat\$bot or bot or (digital or intelligent) near assist\$4) with (automation near3 process) with (GUI or user adj interface or document)	US-PGPUB; USPAT	OR	OFF	2021/10/20 21:56
S351	9	(chatbot or chat\$bot or bot or (digital or intelligent) near assist\$4) with (automation near3 process) with (GUI or user adj interface or document)	US-PGPUB; USPAT	OR	ON	2021/10/20 21:56
S352	216	(chatbot or chat\$bot or bot or (digital or intelligent) near assist\$4) with (automation near3 process)	US-PGPUB; USPAT	OR	OFF	2021/10/21 08:45
S353	23	S352 and (H04L51/02 OR G06F40/134 OR G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279).CPC.	US-PGPUB; USPAT	OR	OFF	2021/10/21 08:45
S354	23	S352 and (H04L51/02 OR G06F40/134 OR G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279).CPC.	US-PGPUB; USPAT	OR	ON	2021/10/21 08:45
S355	136	S352 and @ad<"20171105"	US-PGPUB; USPAT	OR	OFF	2021/10/21 08:56
S356	652	(conversation or chat\$3 or dialog) with (chatbot or chat\$bot or bot or (digital or intelligent) near assist\$4) with (interaction	US-PGPUB; USPAT	OR	OFF	2021/10/21 09:03

		or input\$3) with (GUI or user adj interface or form or input near2 field or content or document)				
S357	359	S356 and (H04L51/02 OR G06F40/134 OR G06F3/0482 OR G06F3/0483 OR G06F3/16 OR G06F3/167 OR G06F9/542 OR G06F16/284 OR G06F16/248 OR G06F3/04895 OR G06F17/279).CPC.	US-PGPUB; USPAT	OR	ON	2021/10/21 09:03
S358	93	S357 and @ad<"20171105"	US-PGPUB; USPAT	OR	OFF	2021/10/21 09:04
S359	16	((("NAHUM") near3 ("Nir")) OR ((("SASSON") near3 ("Shlomi")))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2021/10/21 09:04

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S281	49	((chat near bot or chat\$bot or chatbot) interact\$4 user adj interface).clm.	US-PGPUB; USPAT	AND	OFF	2020/08/26 15:57
S283	1	((chat near bot or chat\$bot or chatbot) sequence automation).clm.	US-PGPUB; USPAT	AND	OFF	2020/08/26 16:32
S361	28	((chat\$bot or chat near bot or chatbot) conversation interact\$4 user adj interface).clm.	US-PGPUB; USPAT	AND	ON	2021/10/21 09:08
S362	2	(defin\$4 conversation (chat\$bot or chat near bot or chatbot) automation process user adj interface).clm.	US-PGPUB; USPAT	AND	ON	2021/10/21 09:09
S363	2	(defin\$4 conversation (chat\$bot or chat near bot or chatbot) automation process).clm.	US-PGPUB; USPAT	AND	ON	2021/10/21 09:09

10/21/2021 9:11:36 AM

C:\Users\mshiberou\Documents\EAST\Workspaces\16358467.wsp

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

Approved for use through 07/31/2012. OMB 0851-0031

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	17026305
	Filing Date	2020-09-21
	First Named Inventor	Nir NAHUM
	Art Unit	2171
	Examiner Name	Shiberou, M.
	Attorney Docket Number	1179.0190 (583-6.5 USCON)

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	1	20170084273	A1	2017-03-23	ZOHAR RON (IL) ET AL			
	2	20130254139	A1	2013-09-26	LEI XIAOGUANG (CA)			
	3	20110321008	A1	2011-12-29	JHONEY ALBEE (IN) ET AL			
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	1							

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		17026305
	Filing Date		2020-09-21
	First Named Inventor	Nir NAHUM	
	Art Unit	2171	
	Examiner Name	Shiberou, M.	
	Attorney Docket Number	1179.0190 (583-6.5 USCON)	

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	1	EPO Search Report for 18874174.8 (13 July 2021)	
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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	17026305
Filing Date	2020-09-21
First Named Inventor	Nir NAHUM
Art Unit	2171
Examiner Name	Shiberou, M.
Attorney Docket Number	1179.0190 (583-6.5 USCON)

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.

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

A certification statement is not submitted herewith.

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	/Mark I. Koffsky/	Date (YYYY-MM-DD)	2021-10-06
Name/Print	Mark I. Koffsky	Registration Number	41906

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.**

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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.

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Koffsky Schwalb LLC
500 Seventh Avenue
8th Floor
New York, NY 10018



**Courtesy Reminder for
Application Serial No: 17/026,305**

Attorney Docket No: 1179.0190 (583-6.5
USCON)

Customer Number: 106928

Date of Electronic Notification: 10/26/2021

This is a courtesy reminder that new correspondence is available for this application. If you have not done so already, please review the correspondence. The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

An email notification regarding the correspondence was sent to the following email address(es) associated with your customer number:

patent@koffskyschwalb.com
eofficeaction@appcoll.com
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Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
17026305	21-Sep-2020	Nir NAHUM	1179.0190 (583-6.5 USCON)	1079

TITLE OF INVENTION :

Automation Process Definition for a Natural Language Interface

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Regular Undiscounted	Utility under 35 USC 111(a)	2171	206000	
Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
\$1200	\$0	\$1200	26-Jan-2022	\$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 :
106928 Koffsky Schwalb LLC 500 Seventh Avenue 8th Floor New York NY 10018 UNITED STATES 646.553.1590 eofficeaction@appcoll.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.



Document Description: Issue Fee Payment (PTO-85B)

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 **in 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 _____.

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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.

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
WALKME LTD.	Tel Aviv		ISRAEL	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	/Mark I. Koffsky/	Date	01-18-2022
Name	MARK I KOFFSKY	Registration Number	41906

Electronic Patent Application Fee Transmittal				
Application Number:		17026305		
Filing Date:		21-Sep-2020		
Title of Invention:		Automation Process Definition for a Natural Language Interface		
First Named Inventor/Applicant Name:		Nir NAHUM		
Filer:		MARK I KOFFSKY		
Attorney Docket Number:		1179.0190 (583-6.5 USCON)		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY APPL ISSUE FEE	1501	1	1200	1200
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1200

Electronic Acknowledgement Receipt	
EFS ID:	44763556
Application Number:	17026305
International Application Number:	
Confirmation Number:	1079
Title of Invention:	Automation Process Definition for a Natural Language Interface
First Named Inventor/Applicant Name:	Nir NAHUM
Customer Number:	106928
Filer:	MARK I KOFFSKY
Filer Authorized By:	
Attorney Docket Number:	1179.0190 (583-6.5 USCON)
Receipt Date:	18-JAN-2022
Filing Date:	21-SEP-2020
Time Stamp:	11:21:36
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	E20221HB21321818
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	62219	no	2
			7104d43eba65e90b9c0aaba1c9a389b5eeec05f3		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	40399	no	2
			daad682f334c4d6337880d0082bf1ab949ac6bee		
Warnings:					
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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/026,305	02/22/2022	11258732	1179.0190 (583-6.5 USCON)	1079

106928 7590 02/02/2022
Koffsky Schwalb LLC
500 Seventh Avenue
8th Floor
New York, NY 10018

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

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