US010096319B1

(12) **United States Patent**
Jin et al.

(10) **Patent No.: US 10,096,319 B1**
(45) **Date of Patent: Oct. 9, 2018**

(54) **VOICE-BASED DETERMINATION OF PHYSICAL AND EMOTIONAL CHARACTERISTICS OF USERS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **15/457,846**

(22) Filed: **Mar. 13, 2017**

(51) **Int. Cl.**

G10L 21/00	(2013.01)
G06F 17/00	(2006.01)
G10L 15/22	(2006.01)
G10L 15/30	(2013.01)
G10L 25/63	(2013.01)
G10L 25/66	(2013.01)
G10L 25/84	(2013.01)
G10L 15/08	(2006.01)

(52) **U.S. Cl.**
CPC ***G10L 15/22*** (2013.01); ***G10L 15/08*** (2013.01); ***G10L 15/30*** (2013.01); ***G10L 25/63*** (2013.01); ***G10L 25/66*** (2013.01); ***G10L 25/84*** (2013.01); *G10L 2015/088* (2013.01)

(58) **Field of Classification Search**
CPC G10L 21/00; G10L 15/00; G06F 17/60
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

6,665,644	B1 *	12/2003	Kanevsky	G10L 17/26 704/246
9,070,357	B1 *	6/2015	Kennedy	G10L 15/00
9,177,557	B2 *	11/2015	Talwar	G10L 17/02
2004/0243443	A1 *	12/2004	Asano	G06Q 10/10 705/2
2013/0339028	A1 *	12/2013	Rosner	G10L 15/222 704/275
2014/0025623	A1 *	1/2014	Lindhiem	G16H 50/20 706/52
2014/0074454	A1 *	3/2014	Brown	G06F 19/345 704/9
2017/0076740	A1 *	3/2017	Feast	G10L 25/63

* cited by examiner

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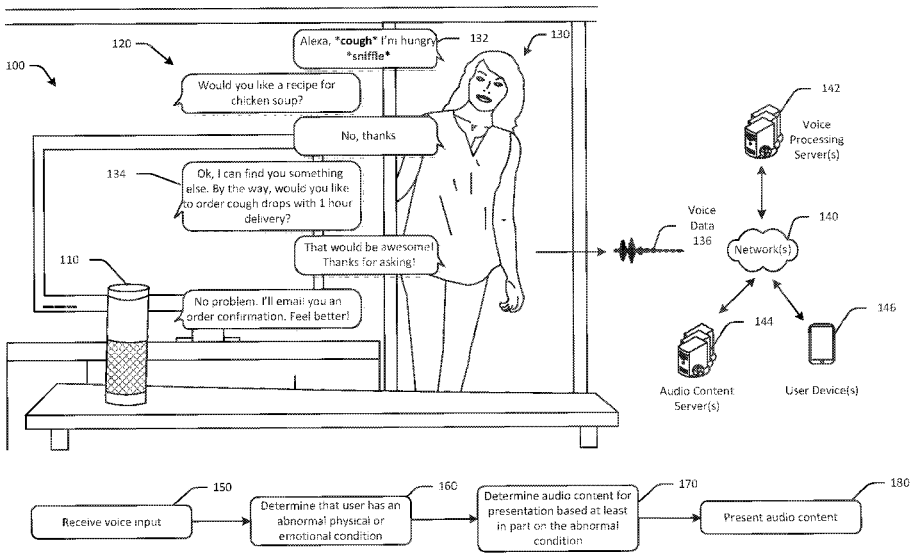
(57) **ABSTRACT**

Systems, methods, and computer-readable media are disclosed for voice-based determination of physical and emotional characteristics of users. Example methods may include determining first voice data, wherein the first voice data is generated by a user, determining a first real-time user status of the user using the first voice data, generating a first data tag indicative of the first real-time user status, determining first audio content for presentation at a speaker device using the first data tag and the first voice data, and causing presentation of the first audio content via a speaker of the speaker device.

19 Claims, 5 Drawing Sheets