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- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
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(54) **Title:** IDENTIFYING GESTURES USING MULTIPLE SENSORS

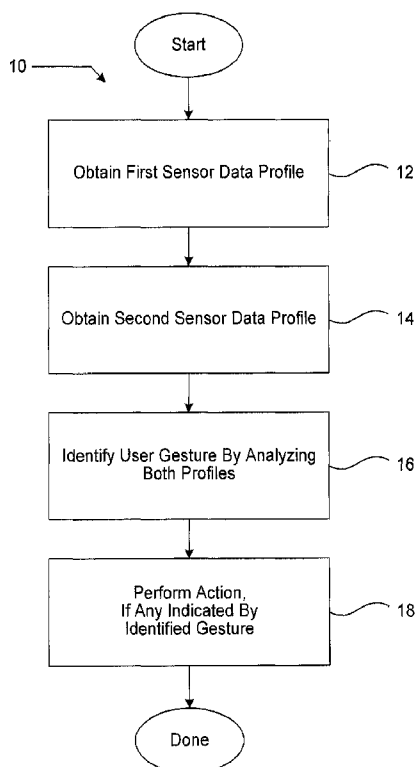


FIG. 1

(57) **Abstract:** Systems and methods for recognizing human gestures are disclosed. In one embodiment, a method for recognizing a gesture made by an operator with a portable device, may comprise: obtaining a first sensor data profile associated with measurements made by the first sensor while the operator made a specific gesture involving the portable device; obtaining a second sensor data profile associated with measurements made by the second sensor while the operator made the specific gesture involving the portable device; and identifying the specific gesture by analyzing the first sensor data profile and the second sensor data profile.



GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06F 3/03; G06K 9/46; G10L 15/00; G08B 21/00; B60J 5/06; H04N 7/14

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: gesture, accelerometer, kinematic, audio, speech, sensor, pattern

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2008-0165022 A1 (HERZ SCOTT et al.) 10 July 2008	1-5,9-17,21-22,24
Y	See abstract ; paragraphs [0011],[0029],[0033],[0039],[0049],[0060] ; claims	,29-37
A	1,19 ; and figures 5-8.	6,18,25,26,38
Y	US 2003-0156756 A1 (SALIH BURAK GOKTURK et al.) 21 August 2003	7-8,19-20,23,27,28
A	See abstract ; paragraphs [0051]-[0057] ; claims 1,2 ; and figures 6-7.	,39,40-41
Y	US 2003-0156756 A1 (SALIH BURAK GOKTURK et al.) 21 August 2003	6,18,25,26,38
A	See abstract ; paragraphs [0051]-[0057] ; claims 1,2 ; and figures 6-7.	1-5,7-17,19-24
		,27-37,39-41
A	WO 2010-006087 A1 (SEABERG, DAVID) 14 January 2010	1-41
	See abstract ; paragraphs [0003]-[0005] ; claim 1 ; and figure 1.	
A	US 2006-0092270 A1 (JOSEPH ALEXANDER DARA-ABRAMS) 04 May 2006	1-41
	See abstract ; paragraphs [0006]-[0007] ; claim 1 ; and figure 3.	



Further documents are listed in the continuation of Box C.



See patent family annex.

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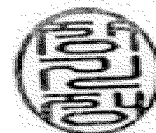
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Information on patent family members

International application No.

PCT/US2012/036475

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008-0165022 A1	10.07.2008	US 7671756 B2 WO 2008-085769 A1	02.03.2010 17.07.2008
US 2003-0156756 A1	21.08.2003	US 7340077 B2	04.03.2008
WO 2010-006087 A1	14.01.2010	US 2011-0115702 A1 WO 2010-006087 A9	19.05.2011 10.11.2011
US 2006-0092270 A1	04.05.2006	US 7271825 B2	18.09.2007