



(51) International Patent Classification:

H04N 21/4722 (2011.01) H04N 21/439 (2011.01)
H04N 21/422 (2011.01) H04N 21/442 (2011.01)
G06F 17/30 (2006.01)

(21) International Application Number:

PCT/US2015/035162

(22) International Filing Date:

10 June 2015 (10.06.2015)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

14/303,506 12 June 2014 (12.06.2014) US

(71) Applicant: **GOOGLE INC.** [US/US]; 1600 Amphitheatre Parkway, Mountain View, CA 94043 (US).(72) Inventors: **OZTASKENT, Ant**; 2 Savin Lodge, Walnut Mews, Sutton, Surrey SM2 5TL (GB). **VOLOVICH, Yaroslav**; 57 St. Andrew's Road, Cambridge CB4 1DH (GB). **TROLLOPE, Ingrid, McAulay**; 69a Mount Ararat Road, Richmond, London TW10 6PL (GB).(74) Agents: **CRISMAN, Douglas, J.** et al.; Morgan Lewis & Bockius LLP, 2 Palo Alto Square, 3000 El Camino Real, Suite 700, Palo Alto, CA 94306 (US).

(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, BN, 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, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, 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, LI, 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, KM, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SYSTEMS AND METHODS FOR LOCALLY DETECTING CONSUMED VIDEO CONTENT

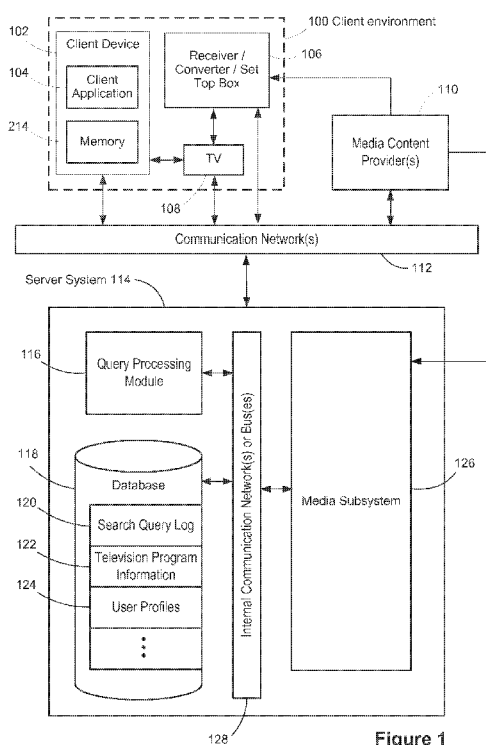


Figure 1

(57) Abstract: A process provides a user with context-aware information. The process is performed at a client device with one or more processors, a microphone, and memory. The memory stores one or more programs configured for execution by the one or more processors. The process receives audio fingerprints for a plurality of video programs and information that correlates each respective received audio fingerprint to a respective video program, and stores the received audio fingerprints and correlating information in memory. The process detects ambient sound using the microphone, and computes one or more sample audio fingerprints from the detected ambient sound. The process matches one of the sample audio fingerprints to a first stored audio fingerprint and uses the correlating information to identify a first video program corresponding to the matched sample audio fingerprint. The process then provides the user with information related to the first video program.

**Published:****(88) Date of publication of the international search report:**

17 March 2016

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2015/035162

A. CLASSIFICATION OF SUBJECT MATTER

INV. H04N21/4722 H04N21/422 G06F17/30 H04N21/439 H04N21/442
ADD.

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)

H04N G06F

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

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

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2013/160038 A1 (SLANEY ET AL) 20 June 2013 (2013-06-20) paragraph [0007] paragraph [0011] paragraphs [0025] - [0027] paragraphs [0037] - [0038] paragraphs [0043] - [0044] paragraphs [0050] - [0052] figures 1, 7	1-22
Y	US 2013/111514 A1 (SLAVIN ET AL) 2 May 2013 (2013-05-02) paragraphs [0003] - [0007] paragraphs [0014] - [0021] paragraph [0117] paragraphs [0121] - [0122] paragraphs [0125] - [0139] figures 1, 2, 19-22, 25 ----- -/-	1-22



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

27 January 2016

Date of mailing of the international search report

03/02/2016

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Fragua, Miguel Angel

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2015/035162

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2011/046719 A1 (ROVI TECHNOLOGIES CORP.) 21 April 2011 (2011-04-21) paragraphs [0006] - [0007] paragraph [0020] paragraph [0053] paragraphs [0057] - [0058] paragraph [0061] paragraphs [0064] - [0065] figures 1a, 2 -----	1-5,14, 16,20-22
Y	US 2012/311074 A1 (ARINI ET AL) 6 December 2012 (2012-12-06) paragraph [0004] paragraphs [0027] - [0028] paragraph [0038] paragraphs [0045] - [0050] paragraphs [0063] - [0068] figures 1-4 -----	1-5,14, 16,20-22
A	EP 2 388 721 A1 (GOOGLE INC.) 23 November 2011 (2011-11-23) paragraphs [0004] - [0005] paragraphs [0023] - [0031] figures 1-3 -----	1-22

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/035162

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2013160038 A1	20-06-2013	CA 2856843 A1	27-06-2013
		CN 103999473 A	20-08-2014
		EP 2795913 A1	29-10-2014
		HK 1199344 A1	26-06-2015
		TW 201342890 A	16-10-2013
		US 2013160038 A1	20-06-2013
		WO 2013095893 A1	27-06-2013

US 2013111514 A1	02-05-2013	US 2013111514 A1	02-05-2013
		WO 2013040533 A1	21-03-2013

WO 2011046719 A1	21-04-2011	NONE	

US 2012311074 A1	06-12-2012	CA 2837870 A1	06-12-2012
		CN 103748897 A	23-04-2014
		EP 2716057 A2	09-04-2014
		JP 2014519759 A	14-08-2014
		KR 20140036281 A	25-03-2014
		US 2012311074 A1	06-12-2012
		WO 2012166739 A2	06-12-2012

EP 2388721 A1	23-11-2011	EP 2388721 A1	23-11-2011
		JP 5828501 B2	09-12-2015
		JP 2011243204 A	01-12-2011
		US 2011289098 A1	24-11-2011
		US 2014195557 A1	10-07-2014
