

INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2018/011594

A. CLASSIFICATION OF SUBJECT MATTER

H04N 13/156(2018.01)i, H04N 21/854(2011.01)i, H04N 21/81(2011.01)i, G06T 19/00(2011.01)i

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 13/156; G06F 3/0481; G06F 3/0484; H04N 13/00; H04N 13/04; H04N 5/445; H04N 5/45; H04N 7/15; H04N 21/854; H04N 21/81; G06T 19/00

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: IPC as above
Japanese Utility models and applications for Utility models: IPC as above

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

eKOMPASS (KIPO internal) & Keywords: virtual, reality, image, normal, overlay

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KR 10-2017-0096129 A (MICROSOFT TECHNOLOGY LICENSING, LLC.) 23 August 2017 See paragraphs [0031]-[0059]; and figures 3a-3k.	1-10
Y	KR 10-1661142 B1 (SAMSUNG ELECTRONICS CO., LTD.) 11 October 2016 See paragraph [0019]; and figure 6a.	1-10
A	KR 10-2017-0031676 A (CLICKED, INC.) 21 March 2017 See paragraphs [0043]-[0050]; and figure 2.	1-10
A	KR 10-2016-0139461 A (LG ELECTRONICS INC.) 07 December 2016 See paragraphs [0069]-[0090]; and figures 2, 3.	1-10
A	KR 10-2017-0093451 A (KT CORPORATION) 16 August 2017 See paragraphs [0059]-[0062]; and figure 7.	1-10



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

11 JANUARY 2019 (11.01.2019)

Date of mailing of the international search report

11 JANUARY 2019 (11.01.2019)

Name and mailing address of the ISA/KR


 Korean Intellectual Property Office
 Government Complex Daejeon Building 4, 189, Cheongsa-ro, Seo-gu,
 Daejeon, 35208, Republic of Korea
 Facsimile No. +82-42-481-8578

Authorized officer

Telephone No.

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/KR2018/011594

Patent document cited in search report	Publication date	Patent family member	Publication date
KR 10-2017-0096129 A	23/08/2017	CN 107111979 A	29/08/2017
		EP 3234941 A2	25/10/2017
		EP 3333836 A1	13/06/2018
		US 2016-0179336 A1	23/06/2016
		US 9778814 B2	03/10/2017
		WO 2016-099906 A2	23/06/2016
		WO 2016-099906 A3	18/08/2016
KR 10-1661142 B1	11/10/2016	EP 2299699 A2	23/03/2011
		EP 2299699 A3	31/10/2012
		US 2011-0061020 A1	10/03/2011
		US 2014-0101585 A1	10/04/2014
		US 8661365 B2	25/02/2014
		US 9612729 B2	04/04/2017
KR 10-2017-0031676 A	21/03/2017	CN 106507128 A	15/03/2017
		EP 3349442 A1	18/07/2018
		KR 10-1716326 B1	14/03/2017
		US 2018-0190036 A1	05/07/2018
		WO 2017-043795 A1	16/03/2017
KR 10-2016-0139461 A	07/12/2016	US 2018-0146189 A1	24/05/2018
		WO 2016-190489 A1	01/12/2016
KR 10-2017-0093451 A	16/08/2017	KR 10-1769118 B1	17/08/2017