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 MA MD</p> <p>(30) Priority: 02.12.2014 JP 2014244312</p> | <p>(71) Applicant: Toyota Jidosha Kabushiki Kaisha
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(54) **MARKER RECOGNITION DEVICE, MARKER RECOGNITION METHOD, AND RECOGNITION PROGRAM**

(57) A marker recognition device (1) includes: an image acquisition unit (2) that acquires an image including a marker having a predetermined feature value; a detection unit (3) that generates scale-space image groups by applying a disturbance to the image including the marker acquired by the image acquisition unit, and detects a key point in the image including the marker by detecting the predetermined feature value based on a difference between the generated scale-space image groups; and a recognition unit (4) that recognizes a position of the marker based on the key point detected by the detection unit.

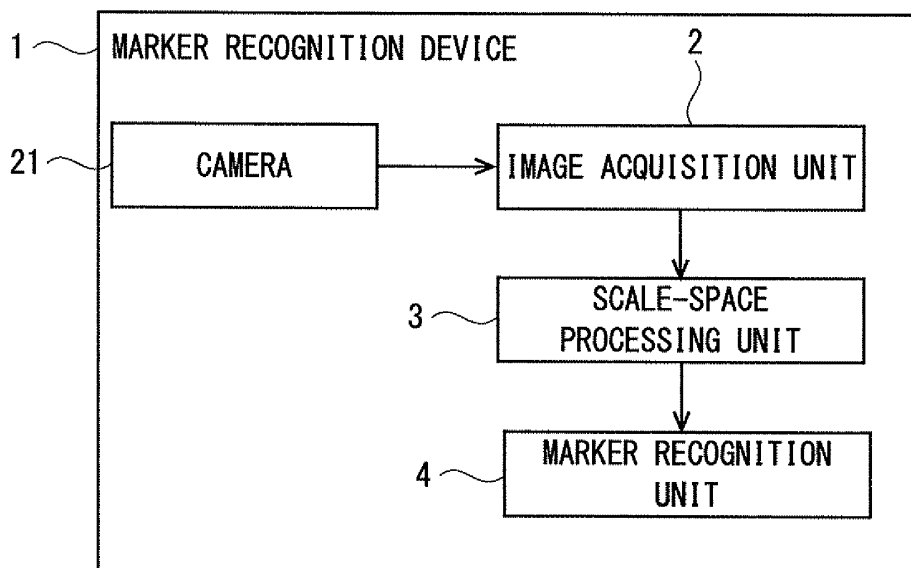


Fig. 1



EUROPEAN SEARCH REPORT

Application Number
EP 15 19 7234

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	<p>Florian Schweiger ET AL: "Maximum Detector Response Markers for SIFT and SURF", 27 November 2010 (2010-11-27), XP055271104, Retrieved from the Internet: URL:https://www.inf.ethz.ch/personal/zeisl/b/publications/schweiger_2009vmv_MaximumDetectorResponseMarkers.pdf [retrieved on 2016-05-09]</p>	1,8,9	INV. G06K9/32
Y	<p>* the whole document *</p>	2-7	
Y	<p>US 2012/057759 A1 (YONAHA MAKOTO [JP]) 8 March 2012 (2012-03-08) * abstract; claims; figures 3,6, 9 *</p>	2,6,7	
Y	<p>CALVET L ET AL: "Camera tracking using concentric circle markers: Paradigms and algorithms". IMAGE PROCESSING (ICIP), 2012 19TH IEEE INTERNATIONAL CONFERENCE ON, IEEE, 30 September 2012 (2012-09-30), pages 1361-1364, XP032333433, DOI: 10.1109/ICIP.2012.6467121 ISBN: 978-1-4673-2534-9 * the whole document *</p>	3-5,7	TECHNICAL FIELDS SEARCHED (IPC) G06K
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 11 May 2016	Examiner Isa, Sabine
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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11-05-2016

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		JP 2012014554 A	19-01-2012
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82