

Title (en)  
SYSTEMS AND METHODS FOR AUGMENTED REALITY

Title (de)  
SYSTEME UND VERFAHREN FÜR ERWEITERTE REALITÄT

Title (fr)  
SYSTÈMES ET PROCÉDÉS POUR RÉALITÉ AUGMENTÉE

Publication  
**EP 3411779 A4 20190220 (EN)**

Application  
**EP 17748352 A 20170206**

Priority  
• US 201662292185 P 20160205  
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Abstract (en)  
[origin: WO2017136833A1] An augmented reality display system includes an electromagnetic field emitter to emit a known magnetic field in a known coordinate system. The system also includes an electromagnetic sensor to measure a parameter related to a magnetic flux at the electromagnetic sensor resulting from the known magnetic field. The system further includes a depth sensor to measure a distance in the known coordinate system. Moreover, the system includes a controller to determine pose information of the electromagnetic sensor relative to the electromagnetic field emitter in the known coordinate system based at least in part on the parameter related to the magnetic flux measured by the electromagnetic sensor and the distance measured by the depth sensor. In addition, the system includes a display system to display virtual content to a user based at least in part on the pose information of the electromagnetic sensor relative to the electromagnetic field emitter.

IPC 8 full level  
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Citation (search report)  
• [Y] CA 2358682 A1 19940303 - BRITISH TELECOMM [GB]  
• [Y] EP 2887311 A1 20150624 - THOMSON LICENSING [FR]  
• [Y] US 2010309292 A1 20101209 - HO YO-SUNG [KR], et al  
• [Y] US 2011238399 A1 20110929 - OPHIR YOAV [IL], et al  
• [Y] US 2016026253 A1 20160128 - BRADSKI GARY R [US], et al  
• [Y] NAIR RAHUL ET AL: "A Survey on Time-of-Flight Stereo Fusion", 9 October 2015, MEDICAL IMAGE COMPUTING AND COMPUTER-ASSISTED INTERVENTION - MICCAI 2015 : 18TH INTERNATIONAL CONFERENCE, MUNICH, GERMANY, OCTOBER 5-9, 2015; PROCEEDINGS; [LECTURE NOTES IN COMPUTER SCIENCE; LECT.NOTES COMPUTER], SPRINGER INTERNATIONAL PUBLISHING, CH, ISBN: 978-3-642-40759-8, ISSN: 0302-9743, XP047148654  
• [Y] ZHU J J ET AL: "Joint depth and alpha matte optimization via fusion of stereo and time-of-flight sensor", 2009 IEEE CONFERENCE ON COMPUTER VISION AND PATTERN RECOGNITION : CVPR 2009 ; MIAMI [BEACH], FLORIDA, USA, 20 - 25 JUNE 2009, IEEE, PISCATAWAY, NJ, 20 June 2009 (2009-06-20), pages 453 - 460, XP002700137, ISBN: 978-1-4244-3992-8, DOI: 10.1109/CVPRW.2009.5206520  
• See also references of WO 2017136833A1

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Designated extension state (EPC)  
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DOCDB simple family (publication)  
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