

Title (en)

PROCESS FOR IDENTIFYING THE POSITION OF AN OBJECT IN SPACE AND PROCESS FOR PLACING THAT OBJECT IN A PREDETERMINED POSITION

Title (de)

VERFAHREN ZUM IDENTIFIZIEREN DER POSITION EINES GEGENSTANDES IM RAUM UND VERFAHREM ZUM PLATZIEREN DES GEGENSTANDES AN EINER VORBESTIMMTEN POSITION

Title (fr)

PROCÉDÉ DESTINÉ À IDENTIFIER LA POSITION D'UN OBJET DANS L'ESPACE ET PROCÉDÉ POUR PLACER CET OBJET DANS UNE POSITION PRÉDÉFINIE

Publication

EP 2069116 A2 20090617 (EN)

Application

EP 07827720 A 20070926

Priority

- IT 2007000669 W 20070926
- IT VR20060145 A 20060927

Abstract (en)

[origin: WO2008038328A2] A process for identifying the position of an object in space comprises a step of illuminating the object with a plurality of rays of light distributed in a known way, for creating a set of illuminated points on the surface of the object and a step of detecting the geometric configuration of the set of illuminated points. Then, a first comparison step between said geometric configuration and a saved three-dimensional surface structure of the object allows the discovery of a substantial correspondence between the geometric configuration detected and at least one geometric configuration belonging to the saved three-dimensional surface structure. Finally, there is an at least implicit step of identification of the position of the object in space based on the comparison between the position in space of the geometric configuration detected and the position of the same geometric configuration detected on the saved three-dimensional surface of the object. The claims also refer to a process for placing an object in space based on the position identification process.

IPC 8 full level

B27B 1/00 (2006.01); **G06K 9/00** (2006.01)

CPC (source: EP)

G01B 11/002 (2013.01); **G06T 7/75** (2016.12); **G06V 20/64** (2022.01); **G06T 2207/30161** (2013.01)

Citation (search report)

See references of WO 2008038328A2

Citation (examination)

- US 2004216808 A1 20041104 - ACHARD RENE [CA], et al
- US 6219585 B1 20010417 - HUGHES MICHAEL G [US], et al
- BESL P J ET AL: "THREE-DIMENSIONAL OBJECT RECOGNITION", ACM COMPUTING SURVEYS, ACM, NEW YORK, NY, US, US, vol. 17, no. 1, 1 March 1985 (1985-03-01), pages 75 - 145, XP008018762, ISSN: 0360-0300, DOI: 10.1145/4078.4081
- MASAKI OSHIMA ET AL: "Object Recognition Using Three-Dimensional Information", IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE, IEEE SERVICE CENTER, LOS ALAMITOS, CA, US, vol. 30, no. 4, 1 July 1983 (1983-07-01), pages 353 - 361, XP011242672, ISSN: 0162-8828
- JOHNSON A ET AL: "3-D OBJECT MODELING AND RECOGNITION FOR TELEROBOTIC MANIPULATION", PROCEEDINGS OF THE 1995 IEEE/RSJ INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS AND SYSTEMS. IROS 95. HUMAN ROBOT INTERACTION AND COOPERATIVE ROBOTS. PITTSBURGH, AUG. 5 - 9, 1995; [PROCEEDINGS OF THE IEEE/RSJ INTERNATIONAL CONFERENCE ON INTELLIGENT R, 5 August 1995 (1995-08-05), pages 103 - 110, XP000740877, ISBN: 978-0-7803-3006-1, DOI: 10.1109/IROS.1995.525782
- SUN-HO LEE ET AL: "Assembly part recognition using part-based superquadric model", TENCON 99. PROCEEDINGS OF THE IEEE REGION 10 CONFERENCE CHEJU ISLAND, SOUTH KOREA 15-17 SEPT. 1999, PISCATAWAY, NJ, USA,IEEE, US, vol. 1, 15 September 1999 (1999-09-15), pages 479 - 482, XP010368330, ISBN: 978-0-7803-5739-6, DOI: 10.1109/TENCON.1999.818455

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

WO 2008038328 A2 20080403; WO 2008038328 A3 20080515; EP 2069116 A2 20090617; IT VR20060145 A1 20080328

DOCDB simple family (application)

IT 2007000669 W 20070926; EP 07827720 A 20070926; IT VR20060145 A 20060927