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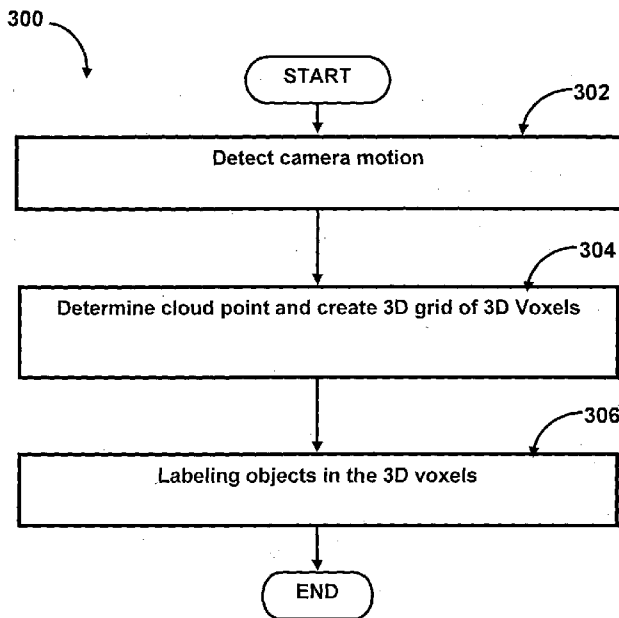
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[Continued on next page]

(54) Title: SEGMENTING OBJECTS IN MULTIMEDIA DATA



(57) Abstract: Disclosed is a method for segmenting a plurality of objects from a two-dimensional (2D) video captured through a depth camera and an RGB/G camera. The method comprises detecting camera motion in each 2D frame of the plurality of 2D frames from the 2D video and generate a first set of 2D frames without any camera motion. The method further comprises generating a plurality of cloud points for the first set of 2D frames corresponding to each pixel associated a 2D frames in the first set of 2D frames. The method further comprises generating a 3D grid comprising a plurality of voxels. The method further comprises determining valid voxels and an invalid voxels in the 3D grid. Further, a 3D connected component labeling technique is applied on to the set of valid voxels to segment the plurality of objects in the 2D video.

Figure 3

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INTERNATIONAL SEARCH REPORT

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PCT/IN14/00043

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC(8) - G06K 9/20 (2015.01)  
 CPC - G06F 3/017  
 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)  
 IPC(8): G06K 9/20, G06T 15/08 (2015.01)  
 CPC: G06F 3/017, G06K 9/00362, G06T 2207/10028, G06T 15/08

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)  
 PatSeer (All, US, EP, WO, JP, DE, GB, CN, FR, KR, ES, AU, IN, CA); IP.com; IEEE; Google/Google Scholar  
 KEYWORDS: camera motion, 2D frame, invalid voxels, depth, 3D, first voxels

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	YAO et al. "Dense 3-D Structure from Image Sequences Using Probabilistic Depth Carving"; BMVC; Publication [online]. 2003 [retrieved 05 January 2015]. Retrieved from the Internet: <URL: http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.331.7503> entire document.	1-14
A	US 2009/0024029 A1 (MURASHITA, M) 22 January 2009; entire document.	1-14
A	US 2011/0080336 A1 (LEYVAND, T et al.) 07 April 2011; entire document.	1-14
A	US 6,867,774 B1 (HALMSHAW, P et al.) 15 March 2005; entire document.	1-14
A	US 2006/0276708 A1 (PETERSON, S et al.) 07 December 2006; entire document.	1-14

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
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"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	

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