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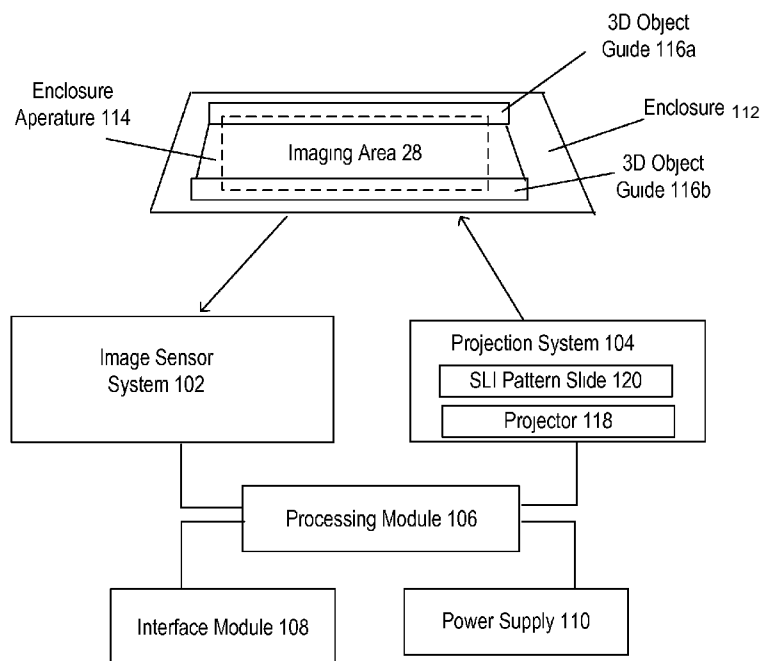
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[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR STRUCTURED LIGHT ILLUMINATION WITH FRAME SUBWINDOWS



(57) Abstract: A structured light imaging (SLI) system includes a projection system, image sensor system and processing module. The projection system is operable to project a single SLI pattern into an imaging area. The image sensor system is operable to capture images of a 3D object moving through the imaging area. The image sensor system outputs a subset of camera pixels corresponding to a subwindow of a camera frame to generate subwindow images. The processing module is operable to create a 3D surface map of the 3D object based on the subwindow images.

FIG. 6

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**A CLASSIFICATION OF SUBJECT MATTER**  
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USPC - 382/154  
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)  
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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
PubWEST(USPT,PGPB,EPAB,JPAB); Google Patents, Google Scholar, Free Patents Online Search terms: structured light, projection, sensor, camera, processor, surface, map, frame, period, rate, image capture, motion, velocity, vector, pixel, sub-, image, window, set, phase, interval, PMP, correlation, LED, array, pulse

**C DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	WO 2007/050776 A2 (Hassebrook et al.) 03 May 2007 (03.05.2007), Figs 2a, 2b, 7a, 11a, 11b, 12, 13; paras [008], [0033]-[0038], [0052], [0057], [0070]-[0072], [0084]	7, 8, 11
Y		4, 6, 9, 10, 12-16
Y	US 2007/0299338 A1 (Stevick et al.) 27 December 2007 (27.12.2007), Fig 4; paras [0012], [0071]	1-6
Y	US 5,155,775 A (Brown) 13 October 1992 (13.10.1992), Fig 4; col 4, ln 42 to col 5, ln 4	1-6
Y	US 2007/0273957 A1 (Zalevsky et al.) 29 November 2007 (29.11.2007), paras [0019], [0066]	9, 10
Y	US 2006/0098089 A1 (Sofer) 11 May 2006 (11.05.2006), Figs 2, 5; paras [0021], [0022], [0053], [0056], [0063]	5, 6, 12-16
Y	US 7,292,711 B2 (Kiralý et al.) 06 November 2007 (06.11.2007), Figs 1, 2, 7; col 4, ln 45-60; col 9, ln 1-29; col 12, ln 36 to col 13, ln 18	4, 16

**D** Further documents are listed in the continuation of Box C

**D**

<ul style="list-style-type: none"> <li>• • Special categories of cited documents</li> <li>"A" document defining the general state of the art which is not considered to be of particular relevance</li> <li>"E" earlier application or patent but published on or after the international filing date</li> <li>"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)</li> <li>"O" document referring to an oral disclosure, use, exhibition or other means</li> <li>"p" document published prior to the international filing date but later than the priority date claimed</li> </ul>	<ul style="list-style-type: none"> <li>"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</li> <li>"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</li> <li>"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</li> <li>"&amp;" document member of the same patent family</li> </ul>
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Name and mailing address of the ISA/AJS Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Lee W. Young  PCT H [ipd]sit: 571-272-4300 PCT OSP- 571-272-7774