(19) World Intellectual Property Organization

(43) International Publication Date 5 March 2009 (05.03.2009)

International Bureau





PCT

(10) International Publication Number WO 2009/027698 A3

- (51) International Patent Classification: *G06T 15/40* (2006.01)
- (21) International Application Number:

PCT/GB2008/002941

- (22) International Filing Date: 29 August 2008 (29.08.2008)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:

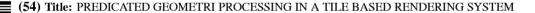
0716890.9 30 August 2007 (30.08.2007) GB

- (71) Applicant (for all designated States except US): IMAG-INATION TECHNOLOGIES LIMITED [GB/GB]; Home Park Estate, Kings Langley, Hertfordshire WD4 8LZ (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): HOWSON, John [GB/GB]; 2 Pilgrim Close, Park Street, St. Albans, Herts AL2 2JD (GB).
- (74) Agent: ROBSON, Aidan, John; Reddie & Grose, 16 Theobalds Road, London WC1X 8PL (GB).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 23 April 2009



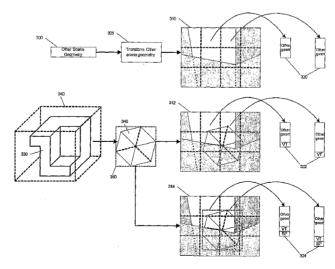


Figure 3- Operation of tiling phase of tile based predicated rendering

(57) Abstract: A method and apparatus are provided to enable tile based rendering systems to operate with predicated geometry whilst only making a single rasterisation pass. To do this, geometry that is to be predicated is substituted in image data with visibility test objects and associated conditional break points. In rasterisation, when a visibility test object is encountered, a visible pixel count register is updated. On completion of rasterisation of a tile, the associated conditional break points are used to test the visible pixel count register to determine if the predicated geometry should be processed and inserted into tile object lists. If it is, then a tile object list corresponding to the predicated geometry is inserted into the tile object list for the current tile and is rasterised before moving onto the next tile.





INTERNATIONAL SEARCH REPORT

International application No PCT/GB2008/002941

A. CLASSII INV.	FICATION OF SUBJECT MATTER G06T15/40	·	
	b International Patent Classification (IPC) or to both national classification	ion and IPC	
	SEARCHED		
Minimum do GO6T	cumentation searched (classification system followed by classificatio	n symbols)	
Documentat	ion searched other than minimum documentation to the extent that su	ch documents are included in the fields searched	
Electronic d	ata base consulted during the international search (name of data bas	e and. where practical search terms used)	
	ternal, WPI Data, INSPEC		
C. DOCUM	ENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the rete	vant passages Relevant to claim No.	
X	US 2005/024366 A1 (LEFEBVRE KEVIN ET AL) 3 February 2005 (2005-02-0		
Y	paragraphs [0005], [0006], [001 [0018] - [0020]; figure 2		
Y	US 2003/122820 A1 (DOYLE PETER L 3 July 2003 (2003-07-03)	[US]) 2-4,6-8	
	paragraphs [0007], [0020], [003 [0040]	2] -	
A	US 6 952 206 B1 (CRAIGHEAD MATTHE 4 October 2005 (2005-10-04)	W [US]) 1-8	
A	columns 7-8; figure 4 US 2001/043216 A1 (HOFFMAN DON B	TUS1 ET 1-8	
^	AL) 22 November 2001 (2001-11-22) the whole document		
		·	
Furt	her documents are listed in the continuation of Box C.	X See patent family annex.	
i '		T later document published after the international filing date or priority date and not in conflict with the application but	
*Cocument object of particular relevance are which is not considered to be of particular relevance considered to be of particular relevance considered to be of particular relevance considered to be of particular relevance. The claimed invention considered to be of particular relevance; the claimed invention considered to be of particular relevance.			
filing o	date ent which may throw doubts on priority claim(s) or	cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
citatio	n or other special reason (as specified) ent referring to an oral disclosure, use, exhibition or	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	
other means "P" document published prior to the international filling date but later than the priority date claimed "R" document member of the same patent family "&" document member of the same patent family			
Date of the	actual completion of the international search	Date of mailing of the international search report	
13 February 2009 23/02/2009			
Name and	mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2	Authorized officer	
NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Krawczyk, Grzegorz	

INTERNATIONAL SEARCH REPORT

information on patent family members

International application No PCT/GB2008/002941

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 2005024366	A1	03-02-2005	NONE		
US 2003122820	A 1	03-07-2003	NONE	·	
US 6952206	·B1	04-10-2005	NONE		
US 2001043216	A1	22-11-2001	US	6476806 B1	05-11-2002