



- (51) International Patent Classification:  
G06T 17/00 (2006.01)
- (21) International Application Number:  
PCT/US2012/027494
- (22) International Filing Date:  
2 March 2012 (02.03.2012)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
13/086,991 14 April 2011 (14.04.2011) US
- (71) Applicant (for all designated States except US):  
MEDTRONIC, INC. [US/US]; 710 Medtronic Parkway  
Ne, Minneapolis, Minnesota 55432 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): GOETZ, Steven M.  
[US/US]; 30 Meadowlark Lane, North Oaks, Minnesota  
55127 (US).
- (74) Agents: MCMAHON, Beth L. et al.; MEDTRONIC,  
INC., 710 Medtronic Parkway NE, Minneapolis, MN  
55432 (US).

- (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, CL, 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, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

[Continued on next page]

(54) Title: IMPLANTABLE MEDICAL DEVICES STORING GRAPHICS PROCESSING DATA

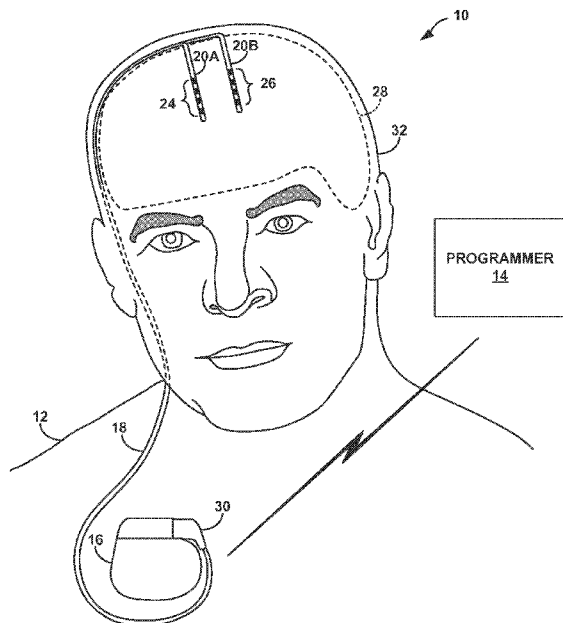


FIG. 1

(57) Abstract: In one example, a device includes a telemetry module configured to retrieve graphics processing data from a device that is not configured to perform a rendering process using the graphics processing data and that is associated with delivering therapy to a therapy target of a patient, and a control unit configured to apply the graphics processing data while performing the rendering process to generate an image of an anatomical feature of the patient, wherein the anatomical feature comprises the therapy target for an implantable medical device (IMD), and to cause a display unit of a user interface to display the image, wherein the image of the anatomical feature is specific to the patient. The graphics processing data may include a list of vertices or a transform to be applied to a non-patient-specific anatomical atlas. The data may also include a location of a therapy element of the IMD.



---

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))* — *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

**Published:**

— *with international search report (Art. 21(3))*

**(88) Date of publication of the international search report:**

17 January 2013

INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2012/027494

A. CLASSIFICATION OF SUBJECT MATTER  
INV. G06T17/00  
ADD.  
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)  
G06T  
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)  
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2004/088027 A1 (BURNES JOHN E [US] ET AL) 6 May 2004 (2004-05-06) abstract claim 22 paragraph [0017]	1-48
Y	US 2005/131474 A1 (JENKINS DAVID A [US] ET AL) 16 June 2005 (2005-06-16) abstract paragraph [0125] - paragraph [0126]	1-48
A	US 2008/154340 A1 (GOETZ STEVEN M [US] ET AL) 26 June 2008 (2008-06-26) paragraph [0086]	1-48
	----- -/--	

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "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)
- "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

- "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
- "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
- "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
- "&" document member of the same patent family

Date of the actual completion of the international search  2 November 2012	Date of mailing of the international search report  09/11/2012
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Gao, Miao

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2012/027494

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2010/030904 A2 (MAYO FOUNDATION [US]; ASIRVATHAM SAMUEL J [US]; BRUCE CHARLES J [US];) 18 March 2010 (2010-03-18) abstract line 3 - page 13, line 19 -----	1,28,36, 42,48

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2012/027494
---

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004088027	A1	06-05-2004	CA 2501950 A1 13-05-2004
			DE 60313492 T2 03-01-2008
			EP 1571976 A2 14-09-2005
			US 2004088027 A1 06-05-2004
			US 2006149339 A1 06-07-2006
			WO 2004039256 A2 13-05-2004
-----			
US 2005131474	A1	16-06-2005	NONE
-----			
US 2008154340	A1	26-06-2008	EP 2101872 A2 23-09-2009
			EP 2101873 A2 23-09-2009
			US 2008154340 A1 26-06-2008
			US 2008163097 A1 03-07-2008
			US 2008215118 A1 04-09-2008
			WO 2008070140 A2 12-06-2008
			WO 2008070142 A2 12-06-2008
			WO 2008070145 A2 12-06-2008
-----			
WO 2010030904	A2	18-03-2010	US 2011224655 A1 15-09-2011
			WO 2010030904 A2 18-03-2010
-----			