(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
22 November 2007 (22.11.2007)

PCT

(10) International Publication Number
WO 2007/134213 A3

(51) International Patent Classification:
G06T 7/00 (2006.01)

(21) International Application Number:
PCT/US2007/068741

(22) International Filing Date: 11 May 2007 (11.05.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/799,588 11 May 2006 (11.05.2006) US

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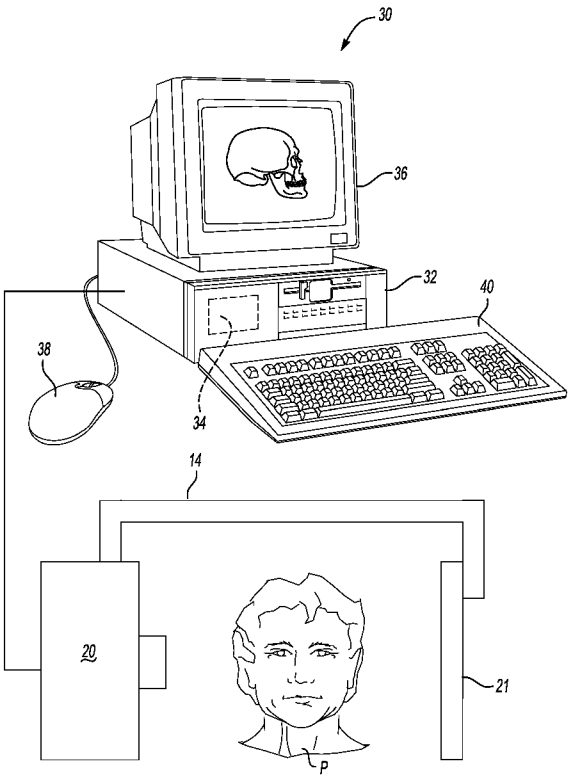
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, 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, 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, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) **Title:** AUTOMATIC DETERMINATION OF CEPHALOMETRIC POINTS IN A THREE-DIMENSIONAL IMAGE



(57) **Abstract:** A CT scanner generates a three-dimensional CT image that is used to construct a ceph image. The computer automatically outlines various parts of the patient to automatically locate points and/or contours that are displayed on the three-dimensional image. The computer also automatically calculates a plurality of cephalometric points that are displayed on the three-dimensional CT image. Once the contours and the ceph points located, the computer determines angles between certain ceph points and/or the contours and compares the angles to stored standard angles. This provides an objective standard for assessing the appearance of the patient and can be used as a guideline in planning any procedure that may affect the appearance of the patient.

WO 2007/134213 A3

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:
24 January 2008

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/068741

A. CLASSIFICATION OF SUBJECT MATTER
INV. G06T7/00

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 practical, search terms used)
EPO-Internal, WPI Data, INSPEC, COMPENDEX, IBM-TDB, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CHRISTENSEN G E; KANE A A; MARSH J L; VANNIER M W: "A 3D deformable infant CT atlas" PROCEEDINGS OF CAR'96, 1996, pages 847-852, XP009091719 abstract sections 1., 2. and 3. figures 1-3	1-22

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[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
5 November 2007	20/11/2007

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/068741

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	DOUGLAS T S: "Image processing for craniofacial landmark identification and measurement: a review of photogrammetry and cephalometry" COMPUTERIZED MEDICAL IMAGING AND GRAPHICS, PERGAMON PRESS, NEW YORK, NY, US, vol. 28, no. 7, October 2004 (2004-10), pages 401-409, XP004582854 ISSN: 0895-6111 abstract page 406, right-hand column, last paragraph page 407, left-hand column, paragraph 1	1-22
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International application No
PCT/US2007/068741

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

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X	ROMANIUK B ET AL: "Shape variability and spatial relationships modeling in statistical pattern recognition" PATTERN RECOGNITION LETTERS, NORTH-HOLLAND PUBL. AMSTERDAM, NL, vol. 25, no. 2, 19 January 2004 (2004-01-19), pages 239-247, XP004479646 ISSN: 0167-8655 sections 1. and 5.	1-22