



(51) International Patent Classification:

A61C 13/34 (2006.01) *A61C 19/04* (2006.01)
A61C 13/36 (2006.01)

(21) International Application Number:

PCT/US2011/059235

(22) International Filing Date:

3 November 2011 (03.11.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

12/939,141 3 November 2010 (03.11.2010) US

(71) Applicant (for all designated States except US): **GLOBAL DENTAL SCIENCE** [US/US]; 15730 N. 83rd Way, Suite 101, Scottsdale, Arizona 85260 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **THOMPSON, Timothy C.** [US/US]; 8 Painted Horse, Santa Fe, New Mexico 87506 (US). **KEATING, Scott C.** [US/US]; 1544 Taft Court, Louisville, Colorado 80027 (US). **JAKSON, Andrzej J.** [US/US]; 41 Bereford Court, Williamsville, New York 14211 (US).(74) Agent: **WEBB, Glenn L.**; 10 Town Plaza, #53, Durango, Colorado 81301 (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).

Published:

- with international search report (Art. 21(3))
- 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))

[Continued on next page]

(54) Title: SYSTEM AND PROCESS FOR OPTIMIZATION OF DENTURES

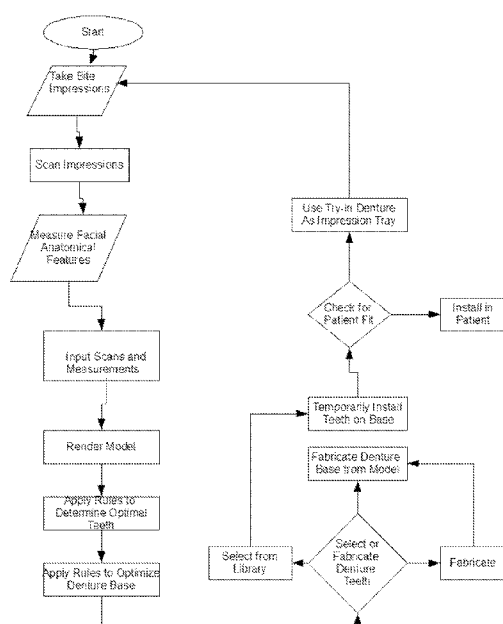


Figure 1

(57) Abstract: System and processes for optimal selection of teeth for dentures based on the anatomical measurements and bite impressions of the patient. This information is applied in an iterative manner to rules that balance the anatomical and aesthetic considerations to select the best teeth for a patient. The system may also use this information in an iterative manner to rules that balance the anatomical and aesthetic considerations to design the optimal denture base for the patient as well.



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

27 September 2012

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/059235**A. CLASSIFICATION OF SUBJECT MATTER***A61C 13/34(2006.01)i, A61C 13/36(2006.01)i, A61C 19/04(2006.01)i*

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)

A61C 13/34; G06F 17/50; G06F 19/00; A61C 9/00; A61C 13/00; G06N 5/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: anatomic feature, scan, impression, design, denture, rule, library

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2009-105661 A1 (SMITHKLINE BEECHAM CORP.) 27 August 2009 See the abstract and claim 1.	1-23
Y	US 2009-0287332 A1 (ADUSUMILLI, PRASAD et al.) 19 November 2009 See the abstract, paragraph [0020], and claims 1, 2, 4, 11.	1-23
Y	US 7758345 B1 (CHRISTENSEN, ANDREW M.) 20 July 2010 See the abstract, columns 6, 9, and claims 9, 10, 12.	1-23
A	US 2010-0094446 A1 (BALOCH, SAJJAD et al.) 15 April 2010 See the abstract and claims 1, 5, 12, 19.	1-23



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 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

16 JULY 2012 (16.07.2012)

Date of mailing of the international search report

18 JULY 2012 (18.07.2012)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
189 Cheongsu-ro, Seo-gu, Daejeon Metropolitan
City, 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

HWANG, Yun Koo

Telephone No. 82-42-481-5715



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2011/059235

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2009-105661 A1	27.08.2009	AU 2009-215416 A1	27.08.2009
		AU 2009-215416 A1	27.08.2009
		AU 2009-215467 A1	27.08.2009
		AU 2009-217329 A1	27.08.2009
		CA 2716254 A1	27.08.2009
		CA 2716314 A1	27.08.2009
		CA 2716327 A1	27.08.2009
		CN 102014785 A	13.04.2011
		CN 102014786 A	13.04.2011
		CN 102014787 A	13.04.2011
		EP 2244657 A1	03.11.2010
		EP 2244658 A1	03.11.2010
		EP 2257901 A1	08.12.2010
		JP 2011-512897 A	28.04.2011
		JP 2011-516940 A	26.05.2011
		JP 2011-517801 A	16.06.2011
		KR 10-2010-0130200 A	10.12.2010
		KR 10-2010-0138950 A	31.12.2010
		KR 10-2010-0138952 A	31.12.2010
		US 2010-0323329 A1	23.12.2010
		US 2010-0332253 A1	30.12.2010
		US 2011-0008747 A1	13.01.2011
US 2009-0287332 A1	19.11.2009	WO 2009-105618 A1	27.08.2009
		WO 2009-105684 A1	27.08.2009
		AU 2007-269717 A1	10.01.2008
		CA 2655738 A1	10.01.2008
		CN 101536000 A	16.09.2009
		EP 2038787 A2	25.03.2009
		JP 2009-542342 A	03.12.2009
		MX 2009000294 A	25.02.2009
US 7758345 B1	20.07.2010	WO 2008-005432 A2	10.01.2008
		WO 2008-005432 A3	24.12.2008
US 2010-0094446 A1	15.04.2010	None	
		EP 2178012 A1	21.04.2010