

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
31 May 2007 (31.05.2007)

PCT

(10) International Publication Number
WO 2007/059615 A1

(51) International Patent Classification:

A61B 5/055 (2006.01) G01R 33/465 (2006.01)
A61B 6/00 (2006.01) G01T 1/164 (2006.01)
A61B 6/03 (2006.01) G06T 7/00 (2006.01)
A61B 8/08 (2006.01)

(21) International Application Number:

PCT/CA2006/001910

(22) International Filing Date:

23 November 2006 (23.11.2006)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/738,999 23 November 2005 (23.11.2005) US

(71) Applicant (for all designated States except US): **THE MEDIPATTERN CORPORATION** [CA/CA]; Suite 204, 2300 Sheppard Ave. W., Toronto, Ontario M9M 3A4 (CA).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **COLLINS, Jeffrey** [CA/CA]; 724 River Road, Belfountain, Ontario L0N 1B0 (CA). **LACHMANN, Frederic** [CA/CA]; 332 Markham Street, Toronto, Ontario M6G 2K9 (CA). **SAGHATELYAN, Karen** [CA/CA]; Suite 2715, 633 Bay

Street, Toronto, Ontario M5G 2G4 (CA). **STAPLETON, Sandra** [CA/US]; 1720 Holt Avenue, Los Altos, California 94024 (US).

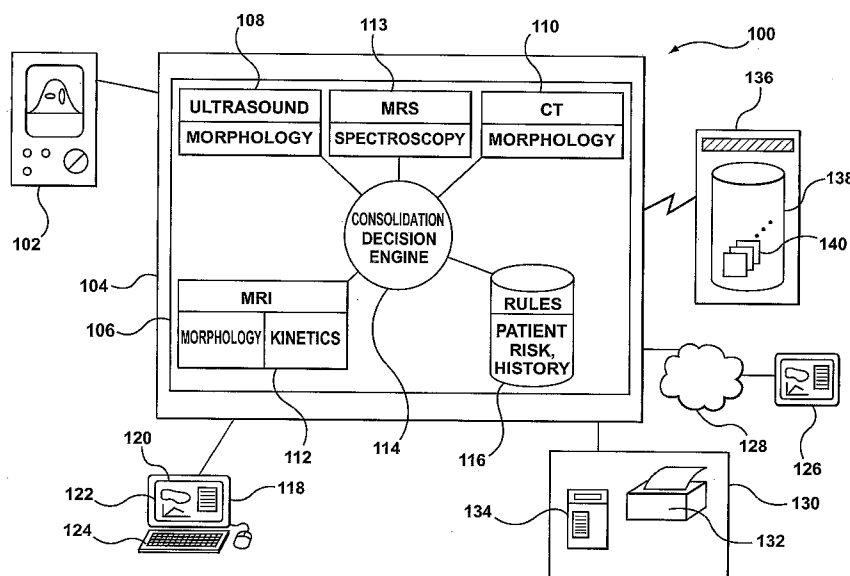
(74) Agents: **ZHANG, Sean, X.** et al.; Blake, Cassels & Graydon, LLP, Box 25, Commerce Court West, 199 Bay Street, Toronto, Ontario M5L 1A9 (CA).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, 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, LV, 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, 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: METHOD AND SYSTEM OF COMPUTER-AIDED QUANTITATIVE AND QUALITATIVE ANALYSIS OF MEDICAL IMAGES



(57) Abstract: A system and method of computer aided analysis of medical images and detection of malignant lesions is described. Medical images obtained from multiple modalities are analyzed. Morphological features as well as temporal, i.e., kinetics features, are combined to compute a consolidated assessment of a possible lesion detected in the medical images. The system includes at least one kinetics module, which is capable of extracting kinetics features from a time sequence of MRI images or MRS data taken after administering a contrast enhancement agent to a patient. The consolidated assessment is presented to a user for confirmation or modification.

WO 2007/059615 A1

**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*

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.