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(54) Title: MULTI-MODALITY MEDICAL SENSING SYSTEM AND METHOD

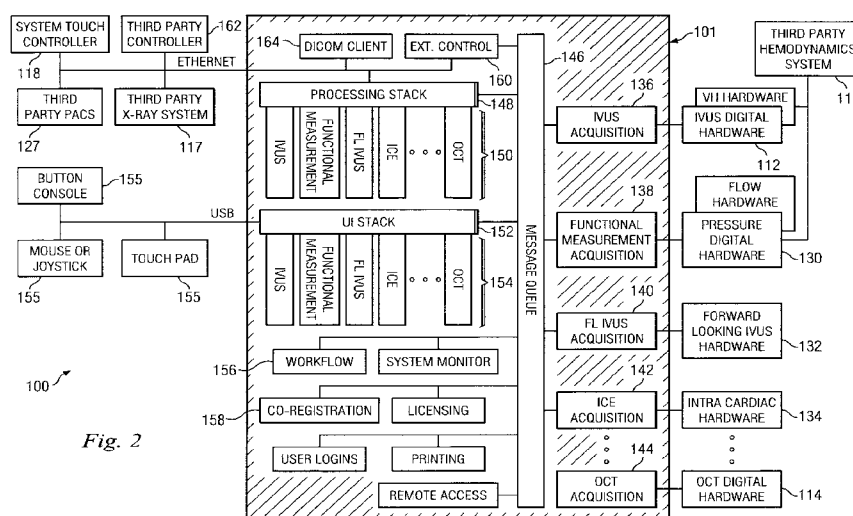


Fig. 2

(57) Abstract: A medical sensing system including a computing system communicatively coupled to a medical sensing device. The computing system includes a data acquisition module operable to receive patient data from the medical sensing device, the data acquisition module being operable to packetize the patient data, a processing module operable to process the packetized first patient data, a user interface module operable to present the processed packetized patient data within a graphical user interface, and a message queue module in communication with the data acquisition module, processing module, and user interface module, the message queue module being operable to receive the packetized patient data from the modules, temporarily store the packetized patient data, and make the packetized patient data available for retrieval by the modules.

A. CLASSIFICATION OF SUBJECT MATTER*A61B 8/06(2006.01)i, G01B 9/02(2006.01)i, A61B 6/03(2006.01)i, G06Q 50/24(2012.01)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)

A61B 8/06; G06F 17/30; G06F 17/60; G06Q 50/00; A61B 5/00

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: medical sensing, rendering, modality, message queue, data acquisition

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A A A A	US 2011-0087664 A1 (WESTIN MARTIN et al.) 14 April 2011 See abstract, paragraphs [0007]-[0008], [0027]-[0029], [0046]-[0057], and figures 2-3. JP 2002-541563 A (ACIST MEDICAL SYSTEMS, INC.) 03 December 2002 See paragraphs [0047]-[0053], and figure 5. JP 2008-293189 A (KONICA MINOLTA MEDICAL & GRAPHIC INC.) 04 December 2008 See paragraphs [0029]-[0043], [0061]-[0067], claim 1, and figures 3,6. US 2006-0173246 A1 (JOHN ZALESKI) 03 August 2006 See paragraphs [0020]-[0033], [0062], and figures 1-2.	1-3, 5-7, 12-13 , 17-29 4, 8-11, 14-16 1-29 1-29 1-29



Further documents are listed in the continuation of Box C.



See patent family annex.

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INTERNATIONAL SEARCH REPORT

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2011-0087664 A1	14.04.2011	EP 2489005 A2 KR 10-2012-0091209 A US 2011-0087651 A1 US 2011-0087652 A1 US 2011-0161450 A1 US 8108432 B2 WO 2011-047200 A3 WO 2011-047200 A3	22.08.2012 17.08.2012 14.04.2011 14.04.2011 30.06.2011 31.01.2012 21.07.2011 21.04.2011
JP 2002-541563 A	03.12.2002	AU 2000-41856 A1 AU 4185600 A EP 1166222 A2 JP 2002-541563 T JP 2002-541563 U WO 00-60522 A2 WO 00-60522 A3 WO 00-60522 A3	23.10.2000 23.10.2000 02.01.2002 03.12.2002 03.12.2002 12.10.2000 18.01.2001 12.10.2000
JP 2008-293189 A	04.12.2008	None	
US 2006-0173246 A1	03.08.2006	None	