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(54) Title: METHODS AND APPARATUS FOR COMPUTER-AIDED RADIOLOGICAL DETECTION AND IMAGING

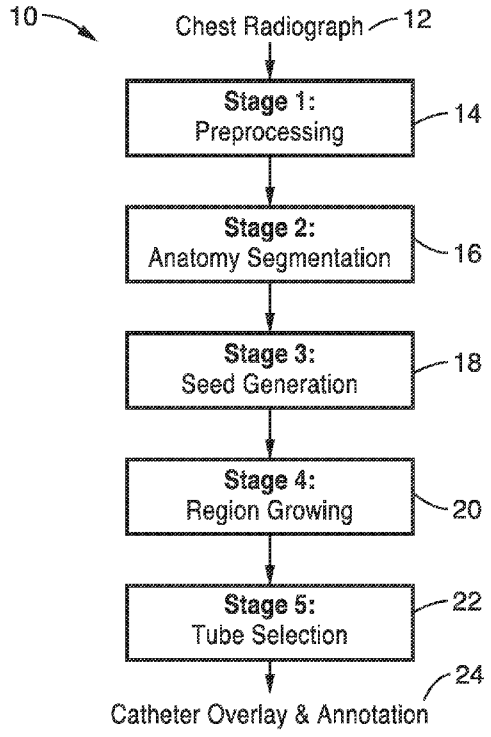


FIG. 1

(57) Abstract: A computer aided detection (CAD) method and system is configured to input chest radiographs and generate overlay layer for labeling and tracing tubes detected within the image. The input image is first preprocessed and then segmented according to anatomy. Seeds are generated from the segmented image and then used to grow the region. Tubes are selected from the grown region and data is overlayed on the image based on the grown seed path.

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.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

A61B 6/00(2006.01)i, A61B 5/027(2006.01)i, G06T 7/60(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)

A61B 6/00; G06F 15/00; G06K 9/00

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: IMD, implant, medical, image, identify, seed

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6571004 B1 (FLORENT; RAOUL et al.) 27 May 2003 See abstract, column 8, line 38 - column 9, line 41, claims 1,10, and figures 1-7.	1-29
A	US 2008-0050000 A1 (THOMAS BLAFFERT et al.) 28 February 2008 See abstract, paragraphs [0024],[0028]-[0029], claims 1-17, and figures 1-5.	1-29
A	US 05289373 A (ZARGE; JONATHAN A. et al.) 22 February 1994 See abstract, paragraphs [0027]-[0041], claim 9, and figures 1,2 .	1-29
A	US 2008-0137923 A1 (SPAHN MARTIN) 12 June 2008 See abstract, paragraphs [0013]-[0015],[0023]-[0026], claim 1, and figures 1-7.	1-29

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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"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

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Date of the actual completion of the international search	Date of mailing of the international search report
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 2008-0137923 A1	12.06.2008	None	