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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
21 May 2015 (21.05.2015)

WIPO | PCT

(10) International Publication Number
WO 2015/071765 A3

(51) International Patent Classification:
G06T 11/20 (2006.01)

(21) International Application Number:
PCT/IB2014/003024

(22) International Filing Date:
11 November 2014 (11.11.2014)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
14/081,707 15 November 2013 (15.11.2013) US

(71) Applicant: **THOMSON REUTERS GLOBAL RESOURCES** [CH/CH]; Neuhofstrasse 1, CH-6340 Baar (CH).

(72) Inventors: **BENNETT, Daniel**; Thomson Reuters, PLC., 3 Times Square, 16th Floor, New York, NY 10036 (US). **DAUP, John, Scott**; Thomson Reuters, PLC, 3 Times Square, 16th Floor, New York, NY 10036 (US). **COOPER, Aaron**; Thomson Reuters, PLC., 3 Times Square, 16th Floor, New York, NY 10036 (US). **HERNANDEZ, Jose**; Thomson Reuters, PLC., 3 Times Square, 16th Floor, New York, NY 10036 (US).

(74) Agent: **PIOTROWICZ, Pawel, J.**; Venner Shipley LLP, Byron House, Cambridge Business Park, Cowley Road, Cambridge CB4 0WZ (GB).

(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, BN, 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, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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,

[Continued on next page]

(54) Title: NAVIGABLE LAYERING OF VIEWABLE AREAS FOR HIERARCHICAL CONTENT

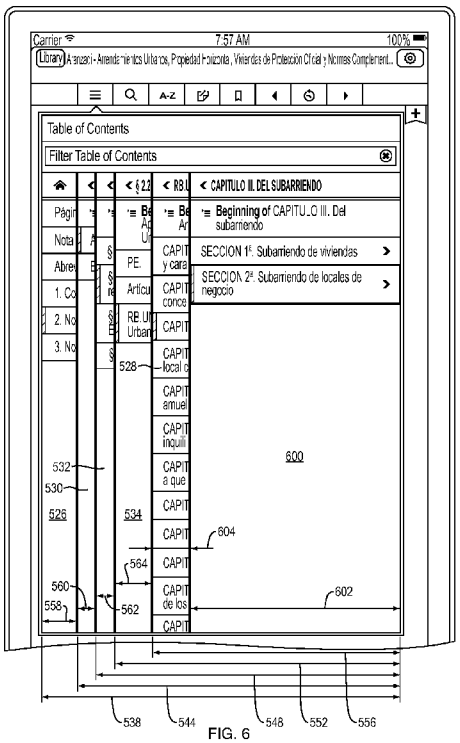

FIG. 6

(57) Abstract: Exemplary embodiments are generally directed to navigable layering of viewable areas corresponding to a hierarchical structure of computer-readable content. In exemplary embodiments, a stack of viewable areas including a first viewable area and a second viewable area can be rendered on a display within a footprint area. An order of the viewable areas in the stack can correspond to a hierarchical relationship of computer-readable content and the viewable areas can include information associated with the hierarchical relationship. The second viewable area in the stack can be adjusted, for example, by resizing and/or repositioning the second viewable area, based on a compression criteria to accommodate the viewable areas of the stack within the footprint.

WO 2015/071765 A3

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, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

— *with international search report (Art. 21(3))*

(88) Date of publication of the international search report:
13 August 2015

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2014/003024

A. CLASSIFICATION OF SUBJECT MATTER
INV. G06T11/20
ADD.

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 G06F

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 practicable, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Stuart K Card ET AL: "Degree-of-Interest Trees: A Component of an Attention-Reactive User Interface DOI Vis UI Data User DOI Vis UI Data", , 22 May 2002 (2002-05-22), XP055183138, Retrieved from the Internet: URL:http://www2.parc.com/istl/groups/uir/publications/items/UIR-2002-11-Card-AVI-DOITree.pdf [retrieved on 2015-04-15] abstract figure 6 figure 8 Section 4.3 ----- -/--	1-20

[X] 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 another 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	Date of mailing of the international search report
21 April 2015	15/05/2015

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Leclercq, Philippe

1

Form PCT/ISA/210 (second sheet) (April 2005)

INTERNATIONAL SEARCH REPORT

International application No
PCT/IB2014/003024

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BEAUDOIN L ET AL: "Cheops: a compact explorer for complex hierarchies", VISUALIZATION '96. PROCEEDINGS, IEEE, NE, 27 October 1996 (1996-10-27), pages 87-92, XP031385474, ISBN: 978-0-89791-864-0 the whole document	1-20
X	DAVID A NATION: "Visualizing websites using a hierarchical table of contents browser: WebTOC", 1 January 2003 (2003-01-01), THE CRAFT OF INFORMATION VISUALIZATION: READINGS AND REFLECTIONS,, PAGE(S) 199 - 210, XP009183745, the whole document	1-20
X	KUMAR H P ET AL: "Browsing hierarchical data with multi-level dynamic queries and pruning", INTERNATIONAL JOURNAL OF HUMAN-COMPUTER STUDIES, ACADEMIC PRESS, NEW YORK, NY, US, vol. 46, no. 1, 1 January 1997 (1997-01-01), pages 103-124, XP002088976, ISSN: 1071-5819, DOI: 10.1006/IJHC.1996.0085 the whole document	1-20

1