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

## (19) World Intellectual Property Organization

International Bureau

# (43) International Publication Date 2 December 2010 (02.12.2010)





# (10) International Publication Number WO 2010/138772 A3

(51) International Patent Classification: *G06F 17/30* (2006.01) *G06F 7/06* (2006.01)

(21) International Application Number:

PCT/US2010/036487

(22) International Filing Date:

27 May 2010 (27.05.2010)

(25) Filing Language:

English

(26) Publication Language:

English

US

(30) Priority Data:

12/473,158

27 May 2009 (27.05.2009)

(71) Applicant (for all designated States except US): MI-CROSOFT CORPORATION [US/US]; One Microsoft

(72) Inventors: TAYLOR, Michael, J.; c/o Microsoft Corporation, LCA - International Patents, One Microsoft Way, Redmond, WA 98052-6399 (US). RADLINSKI, Filip; c/o Microsoft Corporation, LCA - International Patents, One Microsoft Way, Redmond, WA 98052-6399 (US). SHOKOUHI, Milad; c/o Microsoft Corporation, LCA - International Patents, One Microsoft Way, Redmond, WA 98052-6399 (US).

Way, Redmond, WA 98052-6399 (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, RO, RS, RU, 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, 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, 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))

[Continued on next page]

#### (54) Title: MERGING SEARCH RESULTS

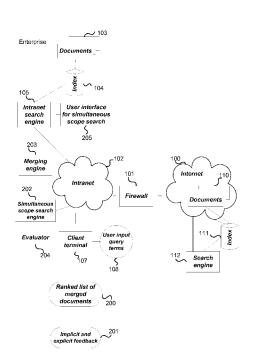


FIG. 2

(57) Abstract: Merging search results is required, for example, where an information retrieval system issues a query to multiple sources and obtains multiple results lists. In an embodiment a search engine at an Enterprise domain sends a query to the Enterprise search engine and also to a public Internet search engine. In embodiments, results lists obtained from different sources are merged using a merging model which is learnt using a machine learning process and updates when click-through data is observed for example. In examples, user information available in the Enterprise domain is used to influence the merging process to improve the relevance of results. In some examples, the user information is used for query modification. In an embodiment a user is able to impersonate a user of a specified group in order to promote particular results.





 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))

(88) Date of publication of the international search report: 3 March 2011

International application No. **PCT/US2010/036487** 

#### A. CLASSIFICATION OF SUBJECT MATTER

G06F 17/30(2006.01)i, G06F 7/06(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)

IPC: G06F

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: retrieve, search, find, seek, query

#### C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005/0027699 A1 (AWADALLAH et al.) 03 February 2005 See the abstract, figures 1-2, and paragraphs 18-23.	1-3,12-15
A	KR 10-2006-0017502 A (OVERTURE SERVICES, INC.) 23 February 2006 See the abstract, figures 2-3, and pages 3,5-6.	1-3,12-15
A	US 2005/0149496 A1 (MUKHERJEE et al.) 07 July 2005 See the abstract, figures 2-6, and paragraphs 17-24.	1-3,12-15

		Further	documents	are	listed	in	the	cont	tinua	tion	of	Box	С.
--	--	---------	-----------	-----	--------	----	-----	------	-------	------	----	-----	----

 $\boxtimes$ 

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

31 DECEMBER 2010 (31.12.2010)

- "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

03 JANUARY 2011 (03.01.2011)

Name and mailing address of the ISA/KR



Korean Intellectual Property Office Government Complex-Daejeon, 139 Seonsa-ro, Seogu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

YOON, Nan Young

Telephone No. 82-42-481-8188



### INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2010/036487

Box No. 11 Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)
This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
Claims Nos.:     because they relate to subject matter not required to be searched by this Authority, namely:
2. Claims Nos.:  because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. Claims Nos.: 4-11 because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
Remark on Protest  The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.  The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.  No protest accompanied the payment of additional search fees.

### INTERNATIONAL SEARCH REPORT

International application No.

US 2005/0027699 A1	00.00.0005		
	03.02.2005	US 7617203 B2 WO 2005-013148 A1	10.11.2009 10.02.2005
KR 10-2006-0017502 A	23.02.2006	EP 1631901 A2 EP 1631901 A4 JP 2006-524871 A KR 10-0778159 B1 US 2004-0215607 A1 US 7219090 B2 W0 2004-097570 A2 W0 2004-097570 A3	08.03.2006 31.10.2007 02.11.2006 22.11.2007 28.10.2004 15.05.2007 11.11.2004
US 2005/0149496 A1	07.07.2005	None	