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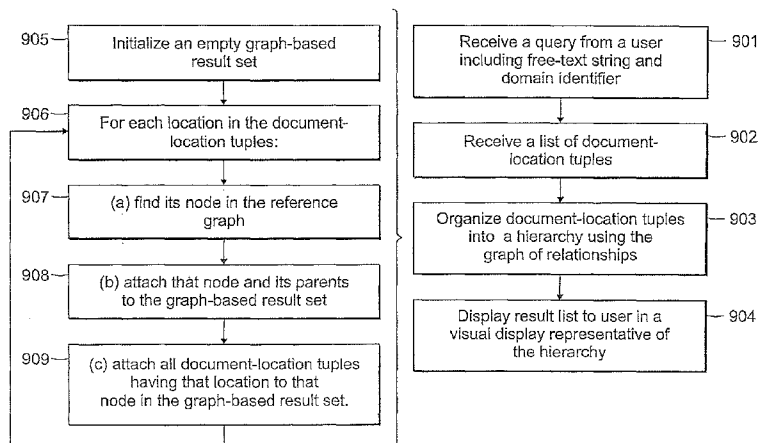
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(54) Title: SYSTEMS AND METHODS FOR HIERARCHICAL ORGANIZATION AND PRESENTATION OF GEOGRAPHIC SEARCH RESULTS



(57) Abstract: Under one aspect, an interface program stored on a computer-readable medium causes a computer system with a display device to perform the functions of: accepting search criteria from a user, the search criteria including a free-text query and a domain identifier, the domain identifier identifying a physical location; in response to accepting said search criteria from the user, receiving a set of document-location tuples from a corpus of documents, each document-location tuple satisfying the search criteria from the user; organizing the document-location tuples into a hierarchical graph structure, the hierarchical graph structure representing hierarchical spatial relationships between the physical locations; and displaying a visual representation of the hierarchical graph structure on the display device.

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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/013807

A. CLASSIFICATION OF SUBJECT MATTER
INV. G06F17/30

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)

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 practical, 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	US 2005/091193 A1 (FRANK JOHN R [US] ET AL) 28 April 2005 (2005-04-28) cited in the application paragraphs [0015], [0036], [0037]	1-28
A	FLIP KORN: "A Taxonomy of Browsing Methods: Approaches to the Lost in Concept Spa" INTERNET CITATION, [Online] 1996, XP002443738 Retrieved from the Internet: URL: http://citeseer.ist.psu.edu/cache/papers/cs/3507/http:zSzzSzwww.cs.umd.edu/zSzzSzprojects/zSzhcilzSzhvisible-human/zSzhvhpzSzhgraphbrowse.pdf/korn9 6taxonomy.pdf [retrieved on 2007-07-20] page 7 - page 9 ----- -/--	1-28



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 document 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.

Z document member of the same patent family

Date of the actual completion of the international search

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2006/004752 A1 (HAREL NADAV [IL] ET AL) 5 January 2006 (2006-01-05) paragraphs [0050] - [0062] figure 3 -----	1-28
A	US 6 184 823 B1 (SMITH NICHOLAS E [US] ET AL) 6 February 2001 (2001-02-06) column 13, line 33 - column 14, line 10 -----	1-28
X	"MetaCarta: A White Paper on MetaCarta's Technology and Products" INTERNET CITATION, [Online] 2005, XP002463193 Retrieved from the Internet: URL: http://www.metacarta.com/docs/Corporate_White_Paper.pdf page 5 - page 9 -----	1-28

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/013807

Box No. II 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:

1. ☐ 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.:
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:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
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.:

1-28

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-28

A method for presenting documents returned in response to a GTS query, wherein the documents are organized hierarchically, using a directed graph structure, based on spatial relationships between locations referenced in the documents.

2. claims: 29-38

A method for allowing users to inspect closer visual indicators of documents displayed in map in response to a user query by applying a "magnifying glass" function.

3. claims: 39-58

A method for automatically recognizing, based on a user GTS query, that additional information might be of interest to a user and formulating an additional query for this information and submitting the query to a database.

4. claims: 59-72

A method for performing statistical analysis on a collection of documents in order to present to a user the association between statistically interesting phrases and geographic locations mentioned by the phrases.

5. claims: 73-84

A method for enabling a user displaying and manually editing metadata relating to location references that a document supposedly refers to.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/013807

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005091193	A1	28-04-2005	NONE
US 2006004752	A1	05-01-2006	NONE
US 6184823	B1	06-02-2001	NONE