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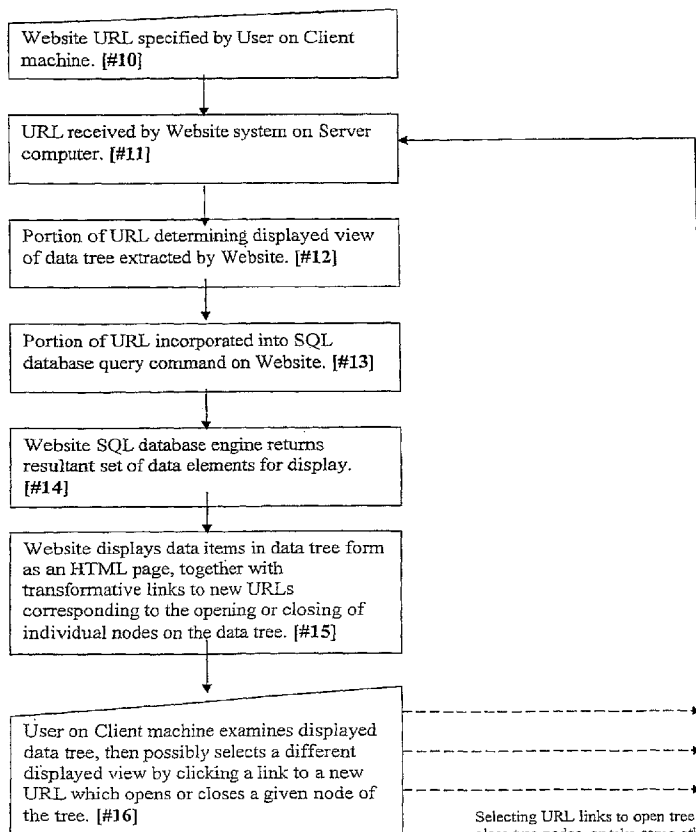
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[Continued on next page]

(54) Title: TRANSFERRING AND DISPLAYING HIERARCHICAL DATA BETWEEN DATABASES AND ELECTRONIC DOCUMENTS



(57) Abstract: An apparatus comprises data storage coupled to one or more processors and a plurality of data elements contained in a database structure and organized in a hierarchical data tree, and instructions that perform receiving a network location identifier from a client computer, wherein the network location identifier comprises at least a portion that specifies a first view of the data tree; creating, using the portion of the network location identifier, a relational database query and submitting the query to a relational database; receiving from the relational database a set of data elements that is associated with the first view; generating a first electronic document comprising the set of data elements, including generating transformative links to other network location identifiers corresponding to performing actions on nodes in the data tree; and providing the first electronic document to the client computer.

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INTERNATIONAL SEARCH REPORT

International application No.  
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<p>A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - G06F 7/00 (2007.01) USPC - 707/103X According to International Patent Classification (IPC) or to both national classification and IPC</p>														
<p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) USPC: 707/103X</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched USPC: 707/3, 4, 100, 102; 715/514, 713;</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Pub WEST (USPT, PGPB, JPAB, EPAB), Google Patents, Patent Storm. Search Terms Used: data adj tree, relational adj database, hierarchical adj data, location adj identifier, hierarchical, resource adj locator, first adj view, generate or create, query, SQL adj query, select, open adj node, view.</p>														
<p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>Y</td> <td>US 2005/0114763 A1 (NONOMURA et al.), 26 May 2005 (26.05.2005); entire document especially fig 18 and 19; para [0010], [0025], [0027], [0112], [0148], [0150] and [0198].</td> <td>1-19, 25-27</td> </tr> <tr> <td>Y</td> <td>US 2001/0051949 A1 (CAREY et al.), 13 December 2001 (13.12.2001), entire document especially para [0038], [0047], [0089] and [0111].</td> <td>1-19, 25-27</td> </tr> <tr> <td>Y</td> <td>US 6,199,098 B1 (JONES et al.), 06 March 2001 (06.03.2001), col 6, ln 29-53.</td> <td>7, 14, 19</td> </tr> </tbody> </table>			Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	Y	US 2005/0114763 A1 (NONOMURA et al.), 26 May 2005 (26.05.2005); entire document especially fig 18 and 19; para [0010], [0025], [0027], [0112], [0148], [0150] and [0198].	1-19, 25-27	Y	US 2001/0051949 A1 (CAREY et al.), 13 December 2001 (13.12.2001), entire document especially para [0038], [0047], [0089] and [0111].	1-19, 25-27	Y	US 6,199,098 B1 (JONES et al.), 06 March 2001 (06.03.2001), col 6, ln 29-53.	7, 14, 19
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<p><input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/></p>														
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"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</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"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</td> </tr> <tr> <td>"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)</td> <td>"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</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"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	"E" earlier application or patent but published on or after the international filing date	"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	"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)	"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	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed			
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"P" document published prior to the international filing date but later than the priority date claimed														
<p>Date of the actual completion of the international search 31 October 2007 (31.10.2007)</p>		<p>Date of mailing of the international search report <b>15 FEB 2008</b></p>												
<p>Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201</p>		<p>Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774</p>												

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 07/00664

**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.: 20-24  
because they relate to subject matter not required to be searched by this Authority, namely:  
  
Claims 20-24 recite a computer readable medium carrying instructions. The specification identifies the medium as including transmission media (paragraph 53). This definition includes both permissible and impermissible (radio waves, signals) embodiments, representing mere presentations of information. Such is not subject to search by this ISA as per Rule 39.1(v).
  
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:

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 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.:

**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.