



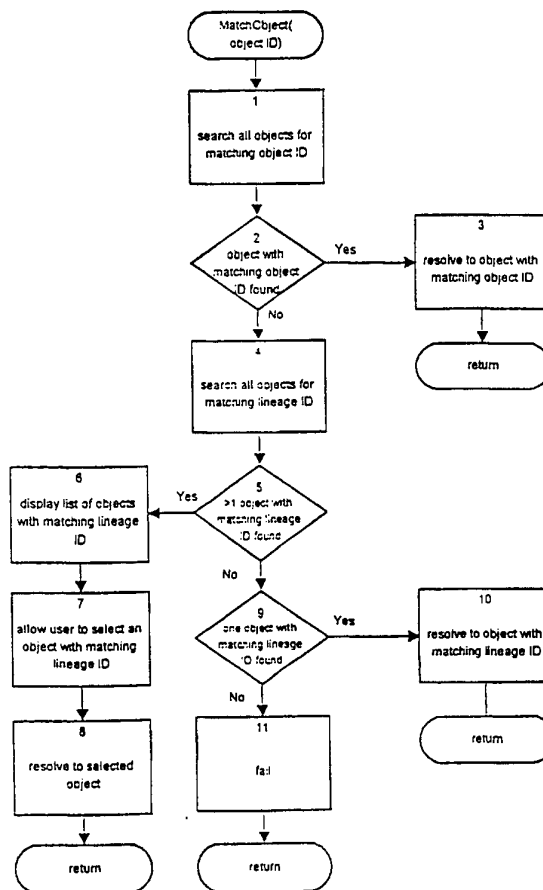
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>6</sup> : G06F 17/30, 9/44</p>	<p>A3</p>	<p>(11) International Publication Number: <b>WO 95/01605</b> (43) International Publication Date: 12 January 1995 (12.01.95)</p>
<p>(21) International Application Number: PCT/US94/07391 (22) International Filing Date: 30 June 1994 (30.06.94)  (30) Priority Data: 08/085,186 30 June 1993 (30.06.93) US 08/259,227 27 June 1994 (27.06.94) US  (71) Applicant: MICROSOFT CORPORATION [US/US]; One Microsoft Way, Redmond, WA 98052-6399 (US).  (72) Inventors: MOREL, William, Paul; 7121 153 Avenue N.E., Redmond, WA 98052 (US). YOUNG, Edward, Koo; 1829 North 177th Street, Seattle, WA 98133 (US).  (74) Agents: LAWRENZ, Steven, D. et al.; Seed and Berry, 6300 Columbia Center, 701 5th Avenue, Seattle, WA 98104-7092 (US).</p>	<p>(81) Designated States: CA, JP, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>  (88) Date of publication of the international search report: 16 February 1995 (16.02.95)</p>	

(54) Title: METHOD AND SYSTEM FOR THE LINK TRACKING OF OBJECTS

(57) Abstract

A method and system for tracking, and resolving links to, objects that derive from a common object creation is provided. In a system, the system creates a source object. The system then generates a lineage identifier to identify the creation of the source object. Then the system associates the lineage identifier with the source object. At a later time, the system copies the created object to a copy object. When the source object is copied to a copy object, the system associates the lineage identifier associated with the source object with the copy object. In this way, the lineage identifier associated with the copy object indicates that the copy object derives from the creation of the source object. The system links a client object to a source object by storing a link containing the source object's lineage identifier in the client object. A link also contains information for distinguishing the source object from other objects having the same lineage identifier. When resolving the link to the source object, the system selects the lineage identifier and the distinguishing information contained in the link. The system then searches for an object with the selected lineage identifier and distinguishing information. When an object with the selected lineage identifier and distinguishing information is found, the system resolves the link to the found object. When an object with the selected lineage identifier and distinguishing information is not found, the system searches for an object with the selected lineage identifier without regard to the selected distinguishing information. When an object with the selected lineage identifier is found, the system resolves the link to this found object.



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# INTERNATIONAL SEARCH REPORT

Inte .onal Application No  
PCT/US 94/07391

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 6 G06F17/30 G06F9/44

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 6 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)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP,A,0 304 071 (WANG LABORATORIES INC.) 22 February 1989 see abstract ---	1-8, 40-43
A	US,A,5 115 504 (BELOVE ET AL.) 19 May 1992 see abstract ---	1-8, 40-43
A	WO,A,93 03448 (UNISYS CORPORATION) 18 February 1993 see page 2, line 32 - page 3, line 29 -----	35-39, 59,60

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

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- \*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.
- \*&\* document member of the same patent family

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Date of the actual completion of the international search  <p style="text-align: center;">9 January 1995</p>	Date of mailing of the international search report  <p style="text-align: center;">20. 01. 95</p>
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+ 31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+ 31-70) 340-3016	Authorized officer  <p style="text-align: center;">Katerbau, R</p>

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 94/07391

**Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

See annexed sheet

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.:  
  
35-39, 59 and 60
  
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.

No protest accompanied the payment of additional search fees.

In the present application, SAE 93033 several sets of claims relating to different technical features are disclosed:

1. Independent claim 1 and its dependent claims 2-8, independent claim 40 and its dependent claims 41-43, describe a method in a computer system of tracking a plurality of objects that derive from a common object creation.
2. Independent claim 9 and its dependent claims 10-19, independent claim 20 and its independent claims 21-26, independent claim 27 and its dependent claim 28, independent claims 44 and its dependent claims 45-49, independent claim 50 and its independent claims 51-55, and independent claims 56 and 57 describe a method in a computer system of resolving a link to a source object.
3. Independent claim 29 and its dependent claims 30-34 and independent claim 58 describe a method in a computer system for searching for sought data objects.
4. Independent claim 35 and its independent claim 36, independent claim 37, independent claim 38 and its dependent claim 39, independent claims 59 and 60 describe a method in a computer system for maintaining properties relating to an object through an update of the object.

There is no common special technical feature, linking independent claims 1,40 and independent claims 9,20,27,44,50,56,57 and independent claims 29,58 and independent claims 35,37,38,59,60. Consequently the application doesn't comply the requirements of unity of invention (see rule 13 PCT).

The search has been performed, according to Art. 17,3 PCT, on those part of the international application which relate to the invention first mentioned in the claims (i.e. claims 1-8, 40-43).

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 94/07391

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A-0304071	22-02-89	AU-B- 607795	14-03-91
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		JP-A- 1126736	18-05-89
		US-A- 5206951	27-04-93
		US-A- 5261080	09-11-93
		US-A- 5303379	12-04-94
		US-A- 5226161	06-07-93
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US-A-5115504	19-05-92	NONE	
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WO-A-9303448	18-02-93	EP-A- 0598058	25-05-94
		JP-T- 6509892	02-11-94
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