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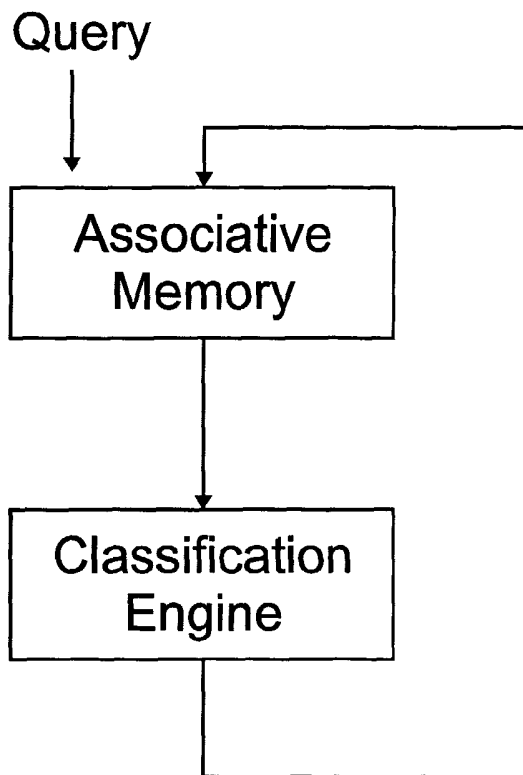
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European

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[Continued on next page]

(54) Title: ASSOCIATIVE MEMORY



(57) Abstract: A computer-implemented method of realizing an associative memory capable of storing a set of documents and retrieving one or more stored documents similar to an inputted query document, said method comprising: coding each document or a part of it through a corresponding feature vector consisting of a series of bits which respectively code for the presence or absence of certain features in said document; arranging the feature vectors in a matrix; generating a query feature vector based on the query document and according to the rules used for generating the feature vectors corresponding to the stored documents such that the query vector corresponds in its length to the width of the matrix; storing the matrix column-wise; for those columns of the matrix where the query vector indicates the presence of a feature, bitwise performing one or more of preferably hardware supported logical operations between the columns of the matrix to obtain one or more additional result columns coding for a similarity measure between the query and parts or the whole of the stored documents; and said method further comprising one or a combination of the following: retrieval of one or more stored documents based on the obtained similarity measure; and or storing a representation of a document through its feature vector into the above matrix.

WO 2002/015045 A3



patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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**Published:**

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 01/09577

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7 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)

IPC 7 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, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 98 47081 A (BUCHSTALLER MICHAEL ;MOHR MICHAEL (DE); DCI DATENBANK FUER WIRTSCH) 22 October 1998 (1998-10-22)	1
A	the whole document	2-6
Y	US 5 778 362 A (DEERWESTER SCOTT) 7 July 1998 (1998-07-07)	1
A	abstract  column 2, line 1 - column 2, line 46 column 4, line 25 - column 9, line 5 claims figures 1-5	2-6

Further documents are listed in the continuation of box C.

Patent family members are listed in 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.
- "&" document member of the same patent family

Date of the actual completion of the international search

6 October 2003

Date of mailing of the international search report

05. 11. 2003

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP 01/09577

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>KRIKELIS A ET AL: "ASSOCIATIVE PROCESSING AND PROCESSORS"                      COMPUTER, US, IEEE COMPUTER SOCIETY, LONG BEACH., CA, US,                      vol. 27, no. 11,                      1 November 1994 (1994-11-01), pages 12-17,                      XP000483129                      ISSN: 0018-9162                      page 13, column 2, line 13 - page 14,                      column 1, line 13</p> <p style="text-align: center;">-----</p>	1
A	<p>WO 88 01411 A (COMM SCIENT IND RES ORG ;UNISEARCH LTD (AU))                      25 February 1988 (1988-02-25)                      page 2, line 7 - page 5, line 2                      claims                      figures 1-7</p> <p style="text-align: center;">-----</p>	1

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP 01/09577

## 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 additional 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.:
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.:

1-12, 16, 17

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- 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: 1-12,16,17

A computer-implemented method and a corresponding apparatus of storing and retrieving a set of documents using an associative memory structure.

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2. claims: 13-15

A method of generating a classification scheme

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 01/09577

<u>Patent document cited in search report</u>	<u>Publication date</u>	<u>Patent family member(s)</u>	<u>Publication date</u>	
WO 9847081	A	22-10-1998	DE 19715723 A1	12-11-1998
			AU 6297198 A	11-11-1998
			WO 9847081 A1	22-10-1998
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			EP 0978059 A1	09-02-2000
			WO 9749046 A1	24-12-1997
			ZA 9705477 A	22-12-1997
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WO 8801411	A	25-02-1988	AU 595378 B2	29-03-1990
			AU 7918587 A	08-03-1988
			WO 8801411 A1	25-02-1988
			EP 0321493 A1	28-06-1989
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