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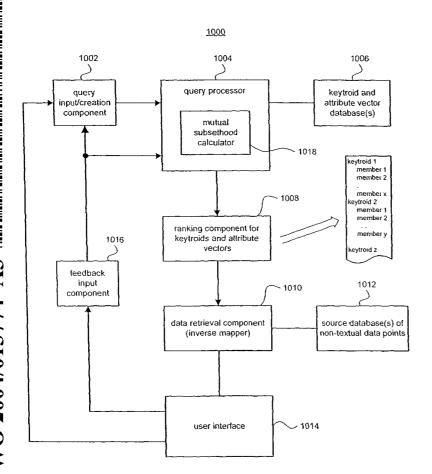
60/401,129 5 August 2002 (05.08.2002) US 10/389,421 14 March 2003 (14.03.2003) US

- (71) Applicant: LOCKHEED MARTIN ORINCON COR-PORATION [US/US]; 4770 Eastgate Mall, San Diego, CA 92121 (US).
- (72) Inventor: RICKARD, John, Terrell; 52 Oak View Circle, Durango, CO 81301 (US).

- (74) Agent: TAKAHASHI, Mark, M.; Gray Cary Ware & Freidenrich LLP, 4365 Executive Drive, Suite 1100, San Diego, CA 92121-2133 (US).
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(54) Title: SEARCH ENGINE FOR NON-TEXTUAL DATA



(57) Abstract: A non-textual data searching system according to the invention is capable of searching non-textual data at semantic levels above the fundamental symbolic level. The actual searching process is analogous to a conventional text-based search engine: a query vector, which identifies a number of fuzzy attributes of the desired data, is processed to retrieve and rank a number of keytroids representing clusters of fuzzy attribute vectors, where each fuzzy attribute vector represents a data event associated with one or more non-textual data points. The keytroids can be inverse-mapped to obtain data events and/or non-textual data points that satisfy the query.

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C. DOCUMENTS CONSIDERED TO BE RELEVANT									
Category °	Citation of document, with indication, where appropriate, of the re	levant passages	Relevant to claim No.						
ou.sgo.y	Commence of the commence of th								
ļγ	US 5 388 259 A (FLEISCHMAN ROBER	r M FT	1-30						
j ! 	AL) 7 February 1995 (1995-02-07)	, II E1	1 30						
ļ	column 1 -column 2; claim 1								
Y	US 2002/051576 A1 (KIM JIN-HAN)	ET AL)	1-30						
]	2 May 2002 (2002–05–02) the whole document								
]	the whore document								
Υ	US 5 706 497 A (TAKAHASHI KOUSUK	E ET AL)	1-30						
	6 January 1998 (1998-01-06)								
ſ	the whole document								
Υ	US 5 787 422 A (PEDERSEN JAN 0	ET AL)	1-30						
'	28 July 1998 (1998-07-28)	LI AL)	120						
1	the whole document								
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Furti	her documents are listed in the continuation of box C.	χ Patent family members are listed	in annex.						
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INTERNATIONAL SEARCH REPORT

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Inter II Application No PCT/US 03/24309

Patent document cited in search report	ļ	Publication date		Patent family member(s)	Publication date
US 5388259	Α	07-02-1995	NONE		
US 2002051576	A1	02-05-2002	KR	2002034564 A	09-05-2002
US 5706497	Α	06-01-1998	JP	8055136 A	27-02-1996
US 5787422	Α	28-07-1998	US	5999927 A	07-12-1999