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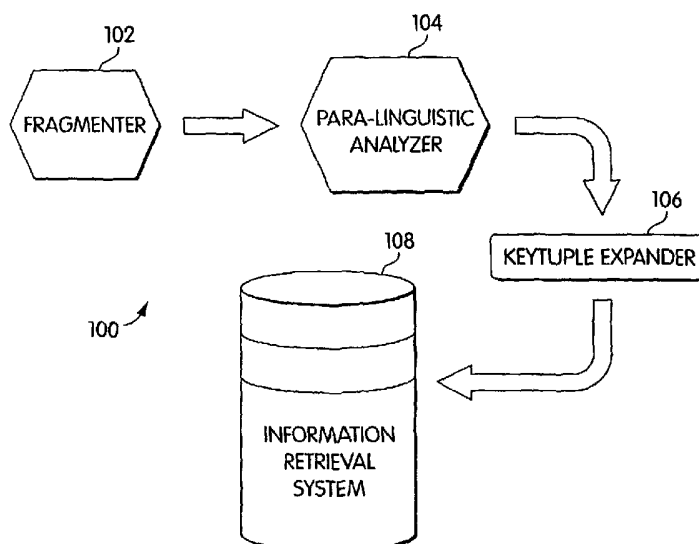
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- (71) Applicant (for all designated States except US): **BEING-META, INC.** [US/US]; 68 Bailey Street, Dorchester, MA 02124 (US).
- (72) Inventor; and  
(75) Inventor/Applicant (for US only): **HAASE, Kenneth** [US/US]; 68 Bailey Street, Dorchester, MA 02124 (US).
- (74) Agent: **MIRABITO, A., Jason**; Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., One Financial Center, Boston, MA 02111 (US).
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[Continued on next page]

(54) Title: PARA-LINGUISTIC EXPANSION



(57) Abstract: The present invention relates to systems and methods for databases. One embodiment of the invention provides a system for managing at least one data item. The system includes: a para-linguistic analyzer (104) operative to receive search data and to identify a first keytuple included in the search data; a keytuple expander (106) in communication with the para-linguistic analyzer (104) and operative to generate a set of keytuples associated with the first keytuple; and an information retrieval engine (108) in communication with the keytuple expander (106) and operative to manage at least one data item based at least in part on the set of keytuples.



**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*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.*

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6 May 2004

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/19338

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 7/00, 17/00, 17/30

US CL : 704/1, 9, 10; 707/3-6, 102

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)

U.S. : 704/1, 9, 10; 707/3-6, 102

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 practicable, search terms used)  
Please See Continuation Sheet

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,933,822 A (BRADEN-HARDER ET AL) 03 AUGUST 1999, ABSTRACT, figures 4-8, col. 10, line 55 to col. 18, line 24	1-20
Y	US 6,263,335 B1 (PAIK ET AL) 17 JULY 2001, Abstract, figures 2-8, col. 9, 38 to col. 22, line 37	1-20
Y	US 6,076,088 A (PAIK ET AL) 13 JUNE 2000, Abstract, figures 2-8, col. 9, line 30 to col. 22, line 11.	1-20
A	US 5,963,940 A (LIDDY ET AL) 05 OCTOBER 1999, Abstract.	1-20

☐ 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 application or patent published on or after the international filing date

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"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

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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. (703) 305-3230

Authorized officer

Richemond Dorvil

Telephone No. 703 3053900

# INTERNATIONAL SEARCH REPORT

PCT/US03/19338

## Continuation of B. FIELDS SEARCHED Item 3:

WEST/EAST

search term: natural language with query same (trip!\$ or keytuple\$ or phrase or trigram)