

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
5 February 2004 (05.02.2004)

PCT

(10) International Publication Number  
**WO 2004/012124 A3**

(51) International Patent Classification<sup>7</sup>: **G06F 17/00**,  
17/30, 17/60, 9/44, G06G 7/48

(21) International Application Number:  
PCT/US2003/023703

(22) International Filing Date: 30 July 2003 (30.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
10/209,531 31 July 2002 (31.07.2002) US

(71) Applicant: **TRELLIGENCE INC.** [US/US]; 4001 Hazard, Houston, TX 77098 (US).

(72) Inventors: **CISCON, Lawrence, A.**; 2522 BlueBonnet, Houston, TX 77030 (US). **GILES, Eugene, P.**; 3121 Buffalo Speedway, #7202, Houston, TX 77098 (US). **EAST-ERBY, David, E.**; 4507 Tall Ridge Ct., Kingwood, TX 77345 (US). **RABALAIS, Donna, G.**; 1411 Lofty Maple Trail, Kingwood, TX 77345 (US). **BARCIO, Bernard, T.**;

3135 Forrester Drive, Pearland, TX 77584 (US). **SMITH, Keith, L.**; 9315 Rhythm Lane, Houston, TX 77040 (US). **FUZAT, Mary, T.**; 8318 Diamond Way Court, Pearland, TX 77584 (US).

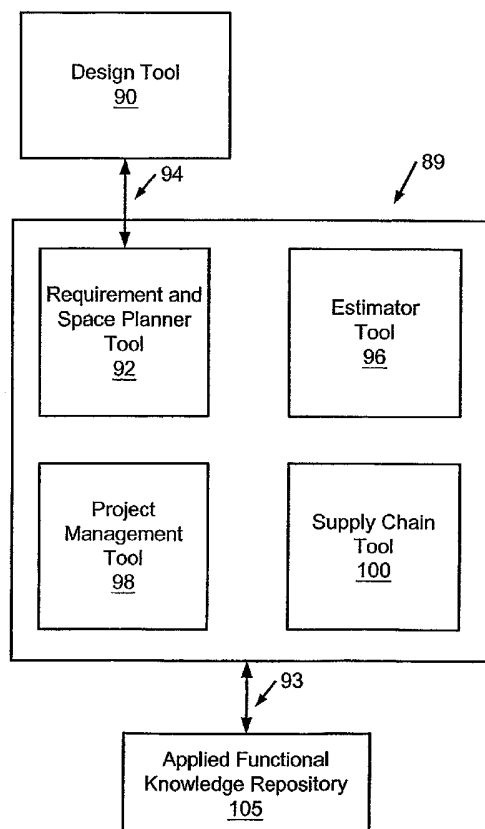
(74) Agent: **OSHA, Jonathan, P.**; Osha & May L.L.P., 1221 McKinney Street, Suite 2800, Houston, TX 77010 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,

[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR LEVERAGING FUNCTIONAL KNOWLEDGE IN AN ENGINEERING PROJECT



(57) Abstract: A method of leveraging functional knowledge in an engineering project includes obtaining a first requirement of the engineering project, creating a first attributed entity, associating the first attributed entity with the first requirement to obtain a first attributed requirement, obtaining a second requirement of the engineering project, creating a second attributed entity, associating the second attributed entity with the second requirement to obtain a second attributed requirement, defining a plurality of constraints based on at least one of the first attributed requirement and the second attributed requirement, applying the plurality of constraints if one of the first attributed requirement and the second attributed requirement is modified, and providing notice if at least one of the plurality of constraints is violated.



SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

**(88) Date of publication of the international search report:**

19 May 2005

**Published:**

- *with international search report*

*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/US03/23703

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 17/00,30,60;G06F 9/44; G06G 7/48

US CL : 703/7;705/1, 7,8,9,11,28,400;707/1,101

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. : 703/7;705/1, 7,8,9,11,28,400;707/1,101

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)  
 Googles, East

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,810,401 (Thompson et al), 10 October 2000 (10.10.2000), See entire document.	1-40
Y	US 6,775,647 (Evans et al), 02 March 2000 (02.03.2000), See entire document.	1-40
Y	US 6,405,364 (Bowman-Amuah), 31 August 1999 (31.08.1999), See entire document.	1-40
Y	US 6,343,285 (Tanaka et al), 09 October 1998 (09.10.1998), See entire document.	1-40
Y	US 6,144,943 (Minder), 21 October 1997 (21.10.1997), See entire document.	1-10
Y	US 6,678,671 (Petrovic et al), 02 November 2000 (02.11.2000), See entire document.	11-22
Y	US 6,101,481 (Miller), 30 June 1998 (30.06.1998), See entire document.	11-21
Y	US 6,609,100 (Smith et al), 07 March 1997 (07.03.1997), See entire document.	11-21
Y	US 6,188,990 (Brook et al), 13 May 1997 (13.05.1997), See entire document.	22



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	"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 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	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search

16 November 2004 (16.11.2004)

Date of mailing of the international search report

25 MAR 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US

Commissioner of Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

John Weiss

Telephone No. (703) 308-1114

## INTERNATIONAL SEARCH REPORT

## C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Mayer J et al: "Information Integration For Concurrent Engineering (IICE) toward A Method For Business Constraint Discovery (IDEF9)", Knowledge Based System, Inc., April 1995, pages 1-62.	1-40
Y	Dove R.: "Knowledge Management, Response Ability, and the Agile Enterprise", Paradigm Shift Internation, March 1999, Pages 1-17.	11-28
Y	Edwards J.: "Leveraging Knowledge Business Intelligence in the Global Corporation - A White Paper from the Economist Intelligence Unit", Economist Intelligence Unit Limited and Oracle, September 2001, Pages 1-18.	23-28
Y	Jalote P.: "Knowledge Infrastructure for Project Management", Department of Computer Science and Engineering, Indian Institute of Technology Kampur, 31 May 2001 (31.05.2001), Pages 1-11.	23-28