(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
20 September 2001 (20.09.2001)

PCT

(10) International Publication Number
WO 2001/069177 A3

(51) International Patent Classification[7]: G06F 17/30

(21) International Application Number:
PCT/US2001/007988

(22) International Filing Date: 12 March 2001 (12.03.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/524,095 13 March 2000 (13.03.2000) US
09/607,672 30 June 2000 (30.06.2000) US

(71) Applicants *(for all designated States except US)*: **SRI INTERNATIONAL** [US/US]; 333 Ravenswood Avenue, Menlo Park, CA 94025 (US). **VOUTSAS, Dimitris** [GR/GR]; 14 M. Pyrza Street, Neoi Epiyates, 57019 Thessaloniki (GR).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **HALVERSON, Christine** [US/US]; 1623 Fairorchard Avenue, San Jose, CA 95125 (US). **JULIA, Luc** [FR/US]; 6250 Virgo Road, Oakland, CA 94611 (US). **CHEYER, Adam** [US/US]; 6174 Contra Costa Road, Oakland, CA 94618 (US).

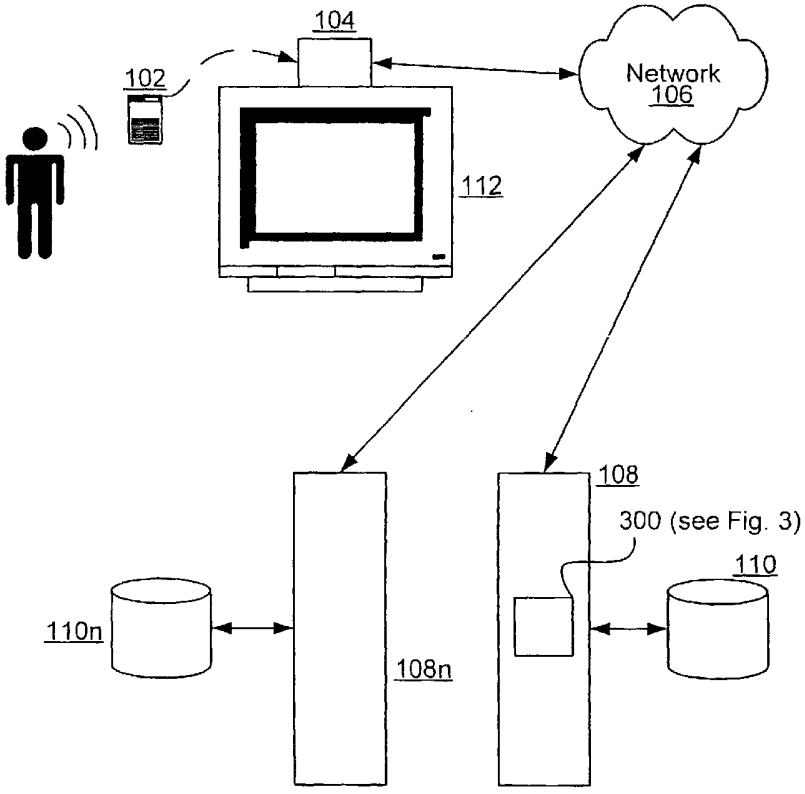
(74) Agent: **TONG, Kin-Wah**; Moser, Patterson & Sheridan, LLP, 595 Shrewsbury Avenue, Suite 100, Shrewsbury, NJ 07702 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian

[Continued on next page]

(54) Title: SYSTEM, METHOD AND ARTICLE OF MANUFACTURE FOR AGENT-BASED NAVIGATION IN A SPEECH-BASED DATA NAVIGATION SYSTEM



(57) Abstract: A system, method, and article of manufacture are provided for navigating an electronic data source by means of spoken language where a portion of the data link between a mobile information appliance of the user and the data source utilizes wireless communication. When a spoken input request is received from a user, it is interpreted. The resulting interpretation of the request is thereupon used to automatically construct an operational navigation query. The navigation query is routed to one or more agents, which use the navigation query to retrieve the desired information from one or more electronic network data sources.

WO 2001/069177 A3

patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European 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, GW, ML, MR, NE, SN, TD, TG).

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*

(88) Date of publication of the international search report:
31 December 2003

(15) Information about Correction:
Previous Correction:
see PCT Gazette No. 13/2003 of 27 March 2003, Section II

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/US 01/07988

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, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MORAN D ET AL: "MULTIMODAL USER INTERFACES IN THE OPEN AGENT ARCHITECTURE" IUI '97. 1997 INTERNATIONAL CONFERENCE ON INTELLIGENT USER INTERFACES. ORLANDO, JAN. 6 - 9, 1997, IUI. INTERNATIONAL CONFERENCE ON INTELLIGENT USER INTERFACES, NEW YORK, ACM, US, 6 January 1997 (1997-01-06), pages 61-68, XP000731431 ISBN: 0-89791-839-8 abstract page 61, right-hand column, line 1 -page 62, right-hand column, line 23 page 63, left-hand column, line 50 -page 64, left-hand column, line 19 page 66, right-hand column, line 5 -page 67, left-hand column, line 47 --- -/--	1-21

[X] Further documents are listed in the continuation of box C.

[X] 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	Date of mailing of the international search report
16 October 2003	24/10/2003

Name and mailing address of the ISA	Authorized officer
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	Boyadzhiev, Y

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/07988

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
X	ZUE V W: "NAVIGATING THE INFORMATION SUPERHIGHWAY USING SPOKEN LANGUAGE INTERFACES" IEEE EXPERT, IEEE INC. NEW YORK, US, vol. 10, no. 5, 1 October 1995 (1995-10-01), pages 39-43, XP000539893 ISSN: 0885-9000 page 39, right-hand column, line 27 -page 40, right-hand column, line 22 page 41, left-hand column, line 10 -page 41, right-hand column, line 30 ---	1,5-8, 12-15, 19-21
A	LAU R ET AL: "WebGALAXY: beyond point and click -- a conversational interface to a browser" COMPUTER NETWORKS AND ISDN SYSTEMS, NORTH HOLLAND PUBLISHING. AMSTERDAM, NL, vol. 29, no. 8-13, 1 September 1997 (1997-09-01), pages 1385-1393, XP004095333 ISSN: 0169-7552 abstract page 1385, right-hand column, line 10 -page 1387, right-hand column, line 23 page 1388, right-hand column, line 4 -page 1390, right-hand column, line 11 page 1391, right-hand column, line 43 -page 1392, left-hand column, line 5 ---	1-21
A	EP 0 859 500 A (LUCENT TECHNOLOGIES INC) 19 August 1998 (1998-08-19) abstract column 2, line 9 -column 3, line 9 column 3, line 39 -column 6, line 13 -----	1-21

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/US 01/07988

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0859500 A	19-08-1998	CA 2229838 A1	18-08-1998
		CA 2309804 A1	18-08-1998
		EP 0859500 A2	19-08-1998
		JP 10271223 A	09-10-1998