

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
20 January 2005 (20.01.2005)

PCT

(10) International Publication Number
WO 2005/006184 A3

- (51) International Patent Classification⁷: **G06F 9/38**
- (21) International Application Number:
PCT/IB2004/051121
- (22) International Filing Date: 5 July 2004 (05.07.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
03102064.7 9 July 2003 (09.07.2003) EP
- (71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL];
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **PESSOLANO, Francesco** [IT/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (74) Agent: **ELEVELD, Koop, J.**; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, 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, NA, 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, US, UZ, VC, VN, YU, ZA, ZM, ZW.

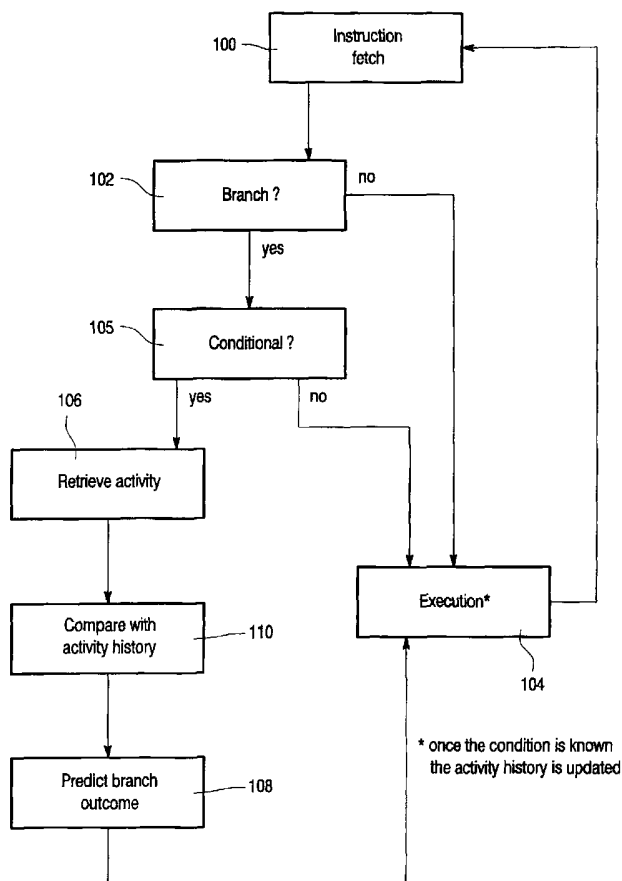
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,

[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR BRANCH PREDICTION



(57) Abstract: A system and method for predicting the outcome of a conditional branch within a computer system, the method comprising the steps of identifying (105) the occurrence of a conditional branch, obtaining (106) data relating to system activity since a previous branch, comparing (110) said data with data relating to previous system activity, and predicting (108) the branch outcome based on such comparison. An activity monitor (Figure 3 - 20) may be used to provide the data relating to system activity.

WO 2005/006184 A3



CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, 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, NA, 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, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, 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, PL, PT, RO, SE, SI, SK, TR), OAPI patent

(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

Published:

— with international search report

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

9 March 2006

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
 .../IB2004/051121

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 G06F9/38

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 729 726 A (LEVINE ET AL) 17 March 1998 (1998-03-17) column 2, line 47 - column 3, line 10 column 20, line 15 - column 21, line 7 claims 1,14	1,8
A	WO 98/36350 A (TELEFONAKTIEBOLAGET LM ERICSSON ; HOLMBERG, PER) 20 August 1998 (1998-08-20) abstract	1,8

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

Date of the actual completion of the international search 1 November 2005	Date of mailing of the international search report 09/11/2005
--	--

Name and mailing address of the ISA 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	Authorized officer Moraiti, M
--	--------------------------------------

INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB2004/051121

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>RECHES S ET AL: "IMPLEMENTATION AND ANALYSIS OF PATH HISTORY IN DYNAMIC BRANCH PREDICTION SCHEMES" PROCEEDINGS OF THE 1997 INTERNATIONAL CONFERENCE ON SUPERCOMPUTING. VIENNA, JULY 7 - 11, 1997, PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON SUPERCOMPUTING, NEW YORK, ACM, US, vol. CONF. 11, 7 July 1997 (1997-07-07), pages 285-292, XP000755269 ISBN: 0-89791-902-5 -----</p>	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No PCT/IB2004/051121

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
US 5729726	A	17-03-1998	NONE	
<hr style="border-top: 1px dashed black;"/>				
WO 9836350	A	20-08-1998	AU 6232898 A	08-09-1998
			CA 2280764 A1	20-08-1998
			EP 1008035 A1	14-06-2000
			JP 2001512596 T	21-08-2001
			SE 520343 C2	01-07-2003
			SE 9700475 A	13-08-1998
			US 6233679 B1	15-05-2001
<hr style="border-top: 1px dashed black;"/>				