

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 January 2005 (27.01.2005)

PCT

(10) International Publication Number
WO 2005/008210 A3

(51) International Patent Classification⁷: G05B 19/00, 23/00, G06F 7/00, 7/04, H04B 1/00, 3/00, H04Q 1/00, 9/00

(21) International Application Number: PCT/US2004/013303

(22) International Filing Date: 14 May 2004 (14.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/470,204 14 May 2003 (14.05.2003) US
10/748,435 31 December 2003 (31.12.2003) US

(71) Applicants and

(72) Inventors: POLCHA, Michael, P. [US/US]; 12462 Cabin Spring Lane, Lovettsville, VA 20180 (US). POLCHA, Andrew, J. [US/US]; 12462 Cabin Spring Lane, Lovettsville, VA 20180 (US).

(74) Agents: EDELL, Ira, C. et al.; Edell, Shapiro & Finnan, LLC, Suite 400, 1901 Research Boulevard, Rockville, MD 20850 (US).

(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.

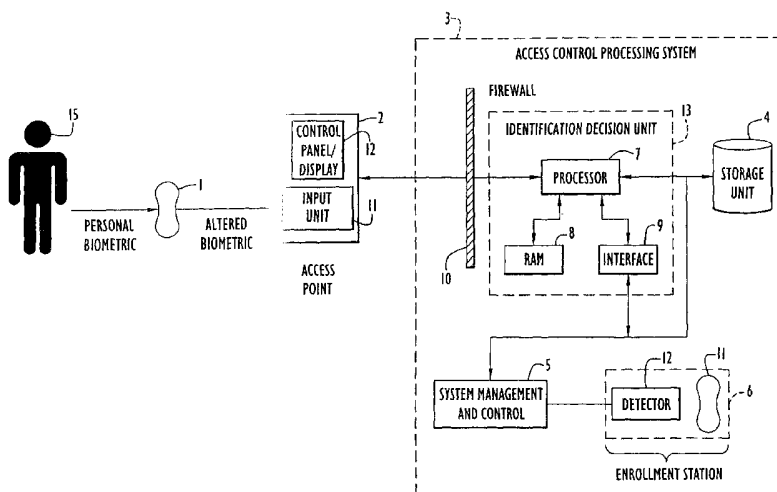
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, 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).

Published:
— with international search report

(88) Date of publication of the international search report:
12 May 2005

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR PERFORMING SECURITY ACCESS CONTROL BASED ON MODIFIED BIOMETRIC DATA



(57) Abstract: An access control method achieves enhanced security and accuracy compared with other systems through recognition of one or more distorted biometrics. The method includes detecting a distorted biometric (11) for input into an identification system (3), comparing the distorted biometric (11) to one or more distortion patterns in storage unit (4), and controlling access to a restricted item (110) based on results of the comparison. The biometric (1) may be an eye pattern, a fingerprint or palm print, a voice print, a handwriting sample, a DNA sample, a facial image, or any other type of characteristic or behavioral attribute of a person.(15). The biometric (1) may be distorted in any one of a variety of ways for comparison to previously enrolled biometrics which have been distorted using the same or similar element. A system (3) and program embodied within a computer-readable medium performs the steps of the method.

WO 2005/008210 A3



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/US04/13303

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G05B 19/00, 23/00; G06F 7/00, 7/04; H04B 1/00 3/00; H04Q 1/00, 9/00
US CL : 340/5.8, 5.81, 5.82, 5.83, 5.84; 382/116, 210; 236/46, 51

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. : 340/5.8, 5.81, 5.82, 5.83, 5.84; 382/116, 210; 236/46, 51

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)
EAST; Search Term: personal identification system; biometric identification system; distorted, encrypted, encoded and fingerprint pattern or voice.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|----------------------------------|
| X | US 5,862,247 A (FISUN et al.) 19 January 1999 (1999-01-19), column 4 line 54 to column 5 line 32; column 6 lines 3 to 54; | 1-15, 20-43, 45-47, 49 and 52-54 |
| A | US 5,534,855 A (SHOCKLEY et al.) 09 July 1996 (1996-07-09), column 5 line 7 to column 7 line 65; | 1-43 and 45-54 |
| A | US 6,219,793 B1 (LI et al.) 17 April 2001 (2001-04-17), column 6 line 52 to column 8 line 49; | 1-43 and 45-54 |
| A | US 6,498,861 B1 (HAMID et al.) 24 December 2002 (2002-12-24), column 5 lines 4 to column 6 line 26; | 1-43 and 45-54 |

Further documents are listed in the continuation of Box C. See patent family annex.

| | | |
|---|-----|--|
| * Special categories of cited documents: | "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 |
| "A" document defining the general state of the art which is not considered to be of particular relevance | "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 |
| "B" earlier application or patent published on or after the international filing date | "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 |
| "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) | "Z" | document member of the same patent family |
| "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 | | |

Date of the actual completion of the international search
06 January 2005 (06.01.2005)

Date of mailing of the international search report
23 FEB 2005

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
Michael Horabik *Ruzhenia Zagan*
Telephone No. 571-272-2600