



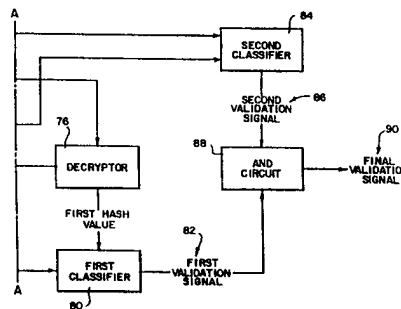
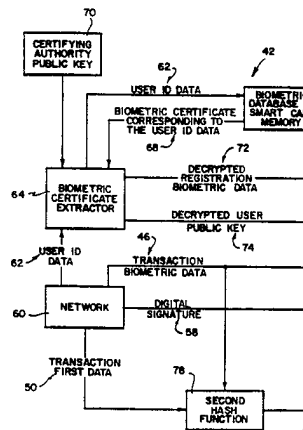
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁶ : G06K 9/20, H04K 1/00, H04L 9/28, 9/00</p>	<p>A3</p>	<p>(11) International Publication Number: WO 98/50875 (43) International Publication Date: 12 November 1998 (12.11.98)</p>
<p>(21) International Application Number: PCT/US98/09770 (22) International Filing Date: 8 May 1998 (08.05.98) (30) Priority Data: 60/046,012 9 May 1997 (09.05.97) US (71) Applicants: GTE GOVERNMENT SYSTEMS CORPORATION [US/US]; 1209 Orange Street, Wilmington, DE 19801 (US). GTE SERVICE CORPORATION [US/US]; 1209 Orange Street, Wilmington, DE 19801 (US). (72) Inventors: DULUDE, Robert; 14 Lafayette Circle, Wellesley, MA 02181 (US). MUSGRAVE, Clyde; 3620 Fairfield Place, Frisco, TX 75035 (US). (74) Agents: SUCHYTA, Leonard, Charles et al.; GTE Service Corporation, 600 Hidden Ridge HQE03G05, Irving, TX 75038 (US).</p>	<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian 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), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report.</i></p> <p>(88) Date of publication of the international search report: 11 February 1999 (11.02.99)</p>	

(54) Title: BIOMETRIC CERTIFICATES

(57) Abstract

A biometric certification system includes a biometric certificates extractor system (64) for extracting biometric certificates (68) which may be used for authentication in any electronic transaction having biometric database (66) for pre-storing the obtained biometric data corresponding to physical characteristics of registered users throughout a biometric input device. Subsequent transaction to be conducted over the network (60) have digital signatures (58) generated from the physical characteristics of a current user and from the electronic transaction. The electronic transaction is authenticated by comparing the hash values in the digital signature with re-created hash values. The user is authenticated by comparison against the pre-stored biometric certificates of the physical characteristics of the users in the biometric database.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/09770**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) :G06K 9/20; H04K 1/00; H04L 9/28, 9/00

US CL :Please See Extra Sheet.

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. : 382/115, 116-118, 124, 155, 190.; 395/21; 380/2, 9, 23-25, 28, 46; 178/22

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)

APS: BIOMETRIC, FINGERPRINT, IRIS, EYE, SPEECHM, VOICE, HASH, ENCRYPT, DECRYPT, NEURAL, EXTRACT, CLASS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,868,877 A (FISCHER) 19 SEPTEMBER 1989, see Abstract, col. 10, and figs. 1-4	1, 7, 16
Y	US 4,405,829 A (RIVEST et al.) 20 SEPTEMBER 1983, see Abstract, col. 1-6, and fig. 7	1, 7, 16
Y	US 5,623,545 A (CHILDS et al.) 22 APRIL 1997 see Abstract, col. 1-6, and figs. 1-11	1, 7, 16
Y	US 4,641,349 A (FLOM et al.) 03 FEBRUARY 1987, see Abstract, col. 1-13, and figs. 2-7	1-20
Y	US 5,263,097 A (KATZ et al.) 16 NOVEMBER 1993, see Abstract, col. 1-9, and fig. 3-7	1-20



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Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

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PCT/US98/09770

A. CLASSIFICATION OF SUBJECT MATTER:

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