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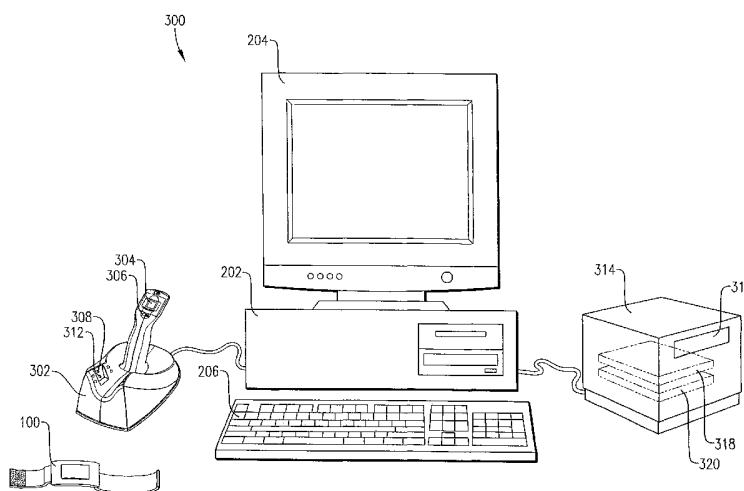
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[Continued on next page]

(54) Title: RFID TAG AND METHOD OF USER VERIFICATION



(57) Abstract: An identification tag (100) facilitates use of a secure computer system (300). The tag (100) is adapted to be worn on a user's wrist and includes an identification and registration circuit (102) that includes an identification component (106), an affiliation component (110), and a light-emitting diode (112). The computer system includes an RF identification tag registration device (302) operable to acquire user physical information and communicate the physical information to a computer (202), wherein the computer verifies that a valid user is wearing the tag (100). The identification and registration device (302) ensures that the physical information communicated to the computer pertains to the user wearing the tag by comparing pulse signals acquired from the user's hand and wrist as the device (302) is acquiring physical information. The computer (202) uses the identification information and the affiliation information to log the user into and out of the system (300), and to associate the identification information with a particular user.



Published:

- with international search report
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/19942

A. CLASSIFICATION OF SUBJECT MATTER

IPC: **G06K 5/00**(2006.01)

USPC: 235/382

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. : 235/382,382.5; 340/5.1-5.92; 382/115-134; 902/3-6

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 5,903,225 A (Schmitt et al) 11 May 1999 (11.05.1999), see entire document	38, 66-70, 101-104, 107 ----- 108, 109
X --- Y	US 6,346,886 B1 (De La Hueraga) 12 February 2002 (12.02.2002), see entire document	1, 9-11, 14-19, 24, 35, 36 ----- 51-63,84-94,98-100
Y	US 5621384 A (Crimmins et al) 15 April 1997 (15.04.1997), see entire document	12, 25, 26, 37, 77-78
Y	US 6600418 B2 (Francis et al) 29 July 2003 (29.07.2003), see entire document	112
Y	US 6695207 B1 (Norris, Jr.) 24 February 2004 (24.02.2004), see entire document	20, 61, 71, 81, 82, 95, 110

☒ 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
"E"	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)	"&"	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

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US04/19942

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6774796 B2 (Smith) 10 August 2004 (10.08.2004), see entire document	21-23, 64, 72-74, 96-97, 109
Y	US 6343140 B1 (Brooks) 29 January 2002 (29.02.2002), see entire document	108
Y	US 6427913 B1 (Maloney) 06 August 2002 (06.08.2002), see entire document	27, 28, 80, 83
Y	US 6225988 B1 (Robb) 01 May 2001 (01.05.2001), see entire document	51-63, 84-94, 98-100

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/19942

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of any additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

- Remark on Protest**
- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/19942

BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-65, drawn to U.S. Application Serial No. 10/869,595 classified in class/subclass 340/005.520.

Group II, claim(s) 66-100, drawn to U.S. Application Serial No. 10/869,596 classified in class/subclass 235/382.000.

Group III, claim(s) 101-112, drawn to U.S. Application Serial No. 10/869,597 classified in class/subclass 235/382.000.

The inventions listed as Groups I, II and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the invention of Group I is drawn to a system/device for registering an identification tag, which classified in class/subclass 340/005.520. The invention of Group II is drawn to an identification system for accessing a computer system using a tag, classified in class/subclass 235/382.000. The invention of Group III is drawn to a method of verifying a user for access to a secure system or location, classified in class/subclass 235/382.000. Accordingly, the inventions of Groups I, II, and III do not relate to one another.