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Declaration under Rule 4.17:

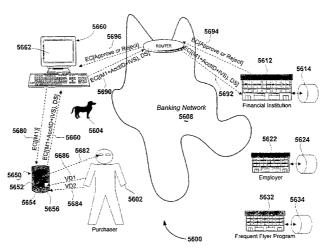
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(54) Title: TRUSTED AUTHENTICATION DIGITAL SIGNATURE (TADS) SYSTEM



(57) Abstract: Trusted entity authentication includes creating a public-private key pair (295) in a secure environment (240); storing the private key (295) within a device (240) during its manufacture in the secure environment (240); linking the public key (295) with other information in the secure environment; receiving input within the device comprising verification data (250) of an entity; identifying within the device a verification status based on the verification data (250) and data prestored within the device (240); independent of the verification status identified (260), generating a digital signature (299) for a message including an indication of the identified verification status using the private key (295); outputting the digital signature for transmission with an EC (210); identifying upon receipt of the EC (210) the information linked with the public key (295) by authenticating the message with the public key (295); and considering the identified information and the indicated verification status (260). The linked information includes device security aspects and the verification status (260) regards entity authentication performed by the device.



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A. CLASSIFICATION OF	SUBJECT MATTER		
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According to International Patent Classification (IPC) or to both national classification and IPC			
B. FIELDS SEARCHED			
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U.S. : 713/155, 156, 168; 705/67, 71, 75, 76, 44; 380/279, 282, 283, 285, 286			
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: USPAT, EPO, JPO, DERWINT, IBMTDB			
C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category* Citation of doc	ument, with indication, where ap	propriate, of the relevant passages	Relevant to claim No.
A US 6,029,150	US 6,029,150 A [KRAVITZ] 22 February, 2000, Entire Document.		
A,P US 6,240,092 Document.	US 6,240,091 B1 [GINZBOORG et al.] 29 May, 2001, Entire Document.		
A,P US 6,233,565	US 6,233,565 B1 [LEWIS et al.] 15 May, 2001, Entire Document.		
A,P US 6,189,096 B1 [HAVERTY] 13 February, 2001, Entire Document. 1-282			1-282
A,E US 6,285,991 B1 [POWAR] 4 September, 2001, Entire Document. 1-282			
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