



US006016476A

United States Patent [19]
Maes et al.

[11] **Patent Number:** **6,016,476**
[45] **Date of Patent:** **Jan. 18, 2000**

[54] **PORTABLE INFORMATION AND TRANSACTION PROCESSING SYSTEM AND METHOD UTILIZING BIOMETRIC AUTHORIZATION AND DIGITAL CERTIFICATE SECURITY**

Primary Examiner—James P. Trammell
Assistant Examiner—Cuong H. Nguyen
Attorney, Agent, or Firm—F. Chau & Associates, LLP

[57] **ABSTRACT**

The present invention is a portable client PDA with a touch screen or other equivalent user interface and having a microphone and local central processing unit (CPU) for processing voice commands and for processing biometric data to provide user verification. The PDA also includes a memory for storing financial and personal information of the user and I/O capability for reading and writing information to various cards such as smartcards, magnetic cards, optical cards or EAROM cards. The PDA includes a Universal Card, which is common generic smartcard with a unique imprint provided by a service provider, on which selected financial or personal information stored in the PDA can be downloaded to perform certain consumer transactions. The PDA includes a modem, a serial port and/or a parallel port so as to provide direct communication capability with peripheral devices (such as POS and ATM terminals) and is capable of transmitting or receiving information through wireless communications such as radio frequency (RF) and infrared (IR) communication. The present invention is preferably operated in two modes, i.e., a client/server mode and a local mode. The client/server mode is periodically performed to download a temporary digital certificate (which is necessary to access selected information stored in the PDA and to write such information to the Universal Card) from a central server of the service provider of the PDA and Universal Card. Next, the local mode of operation is performed by providing the PDA with biometric data and selecting one of the pre-enrolled credit cards that are stored in the PDA. Upon biometric verification, the Universal Card is written with the selected card information, which is then used to initiate a consumer transaction. In the absence of an unexpired digital certificate, however, the selected card information will not be written to the Universal Card, notwithstanding that the user may have passed local biometric verification.

[75] Inventors: **Stephane Herman Maes**, Danbury, Conn.; **Jan Sedivy**, Praha, Czechoslovakia

[73] Assignee: **International Business Machines Corporation**, Armonk, N.Y.

[21] Appl. No.: **09/008,122**

[22] Filed: **Jan. 16, 1998**

Related U.S. Application Data

[60] Provisional application No. 60/055,418, Aug. 11, 1997.

[51] **Int. Cl.** **H04L 9/32**; G06F 157/00

[52] **U.S. Cl.** **705/1**; 705/26; 705/42; 705/44; 380/23; 380/25

[58] **Field of Search** 704/270, 275; 705/26, 35-38; 710/11; 713/200; 380/21, 25, 30, 24, 9, 23

[56] **References Cited**

U.S. PATENT DOCUMENTS

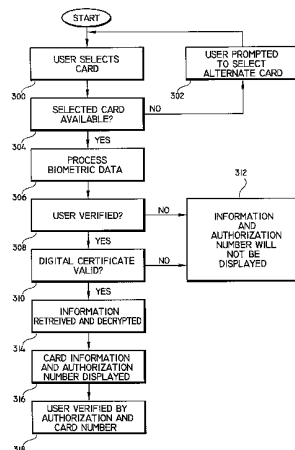
4,274,139	6/1981	Hodgkinson et al.	709/203
4,653,097	3/1987	Watanabe et al.	704/272
5,127,043	6/1992	Hunt et al.	379/88.02
5,181,238	1/1993	Medamana et al.	379/93.03
5,216,720	6/1993	Naik et al.	704/272
5,274,695	12/1993	Green	379/88.02
5,365,574	11/1994	Hunt et al.	379/88.02
5,465,290	11/1995	Hampton et al.	379/88.02
5,499,288	3/1996	Hunt et al.	379/88.02

(List continued on next page.)

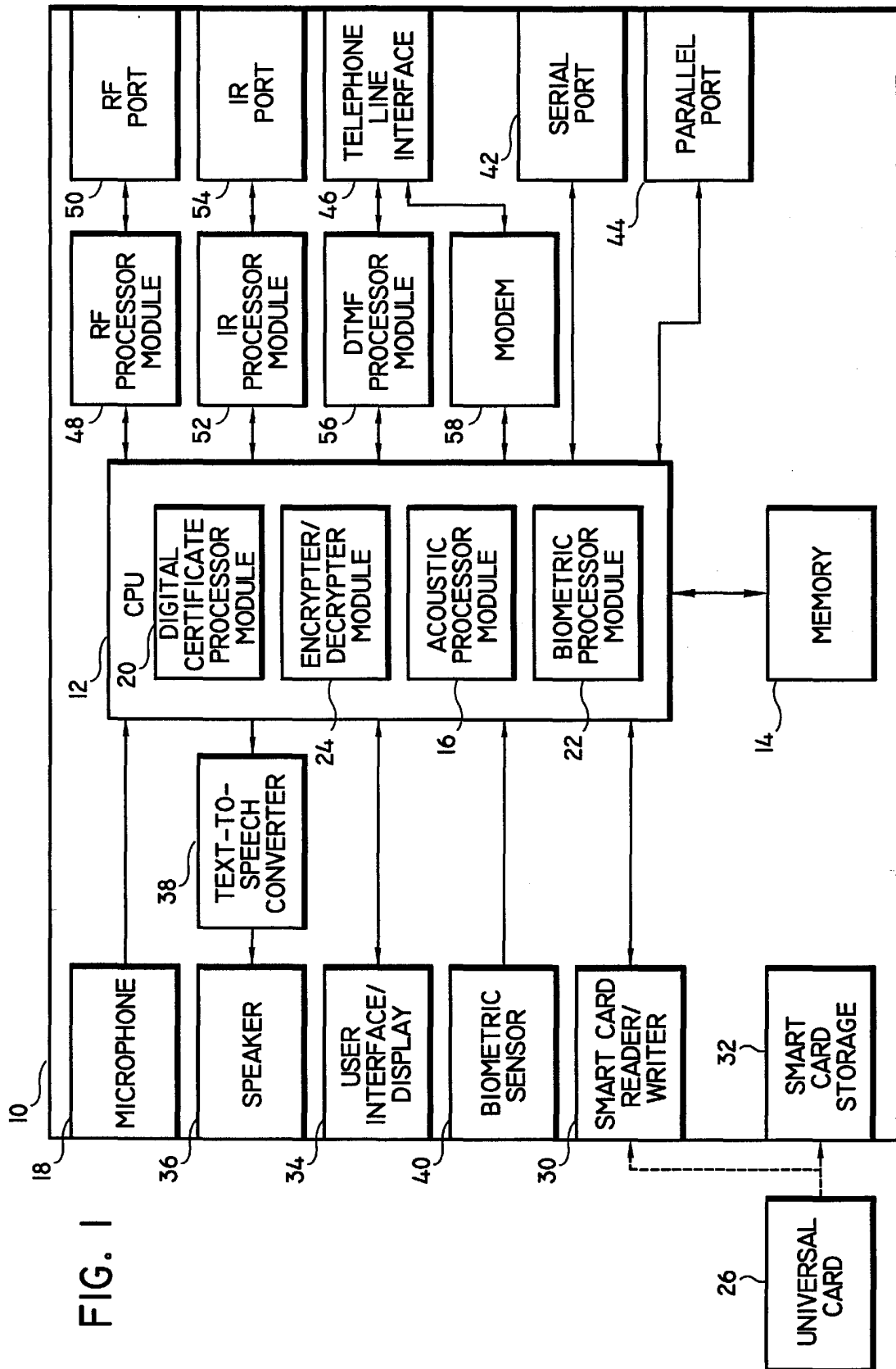
OTHER PUBLICATIONS

IBM Tech. Discl. Bulletin vol. 37 #92B Feb. 1994 p. 189 "VoicePrint Security for Credit Cards" Anon.
Information Week Aug. 18, 1997 p. 36 Anon. "Biometrics—Body Language—Fingerprints, Faces, Even Eyes are The New Keys to Protecting . . .".

20 Claims, 5 Drawing Sheets



U.S. PATENT DOCUMENTS						
			5,742,845	4/1998	Wagner	705/26
			5,796,832	8/1998	Kawan	380/24
5,513,272	4/1996	Bogosian, Jr.	5,825,880	10/1998	Sudia et al.	380/21
5,517,558	5/1996	Schalk	5,852,811	12/1998	Atkins	705/36
5,657,389	8/1997	Houvener	5,892,900	4/1999	Ginter et al.	713/200
5,696,827	12/1997	Brands	5,893,063	4/1999	Loats et al.	704/275
5,721,781	2/1998	Deo et al.				



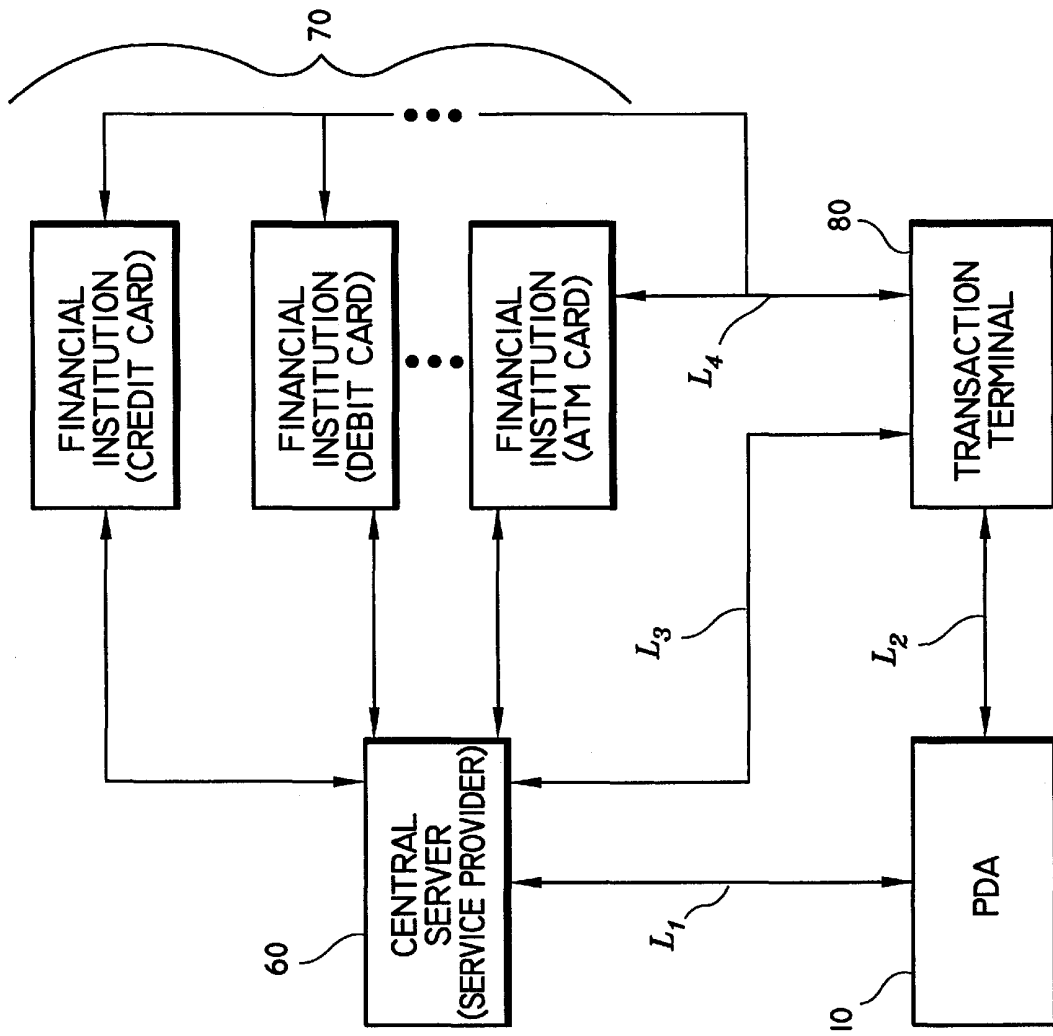
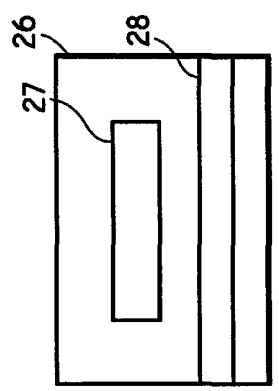
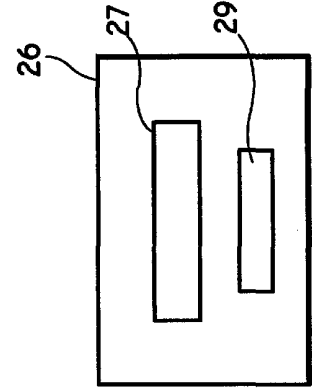


FIG. 3

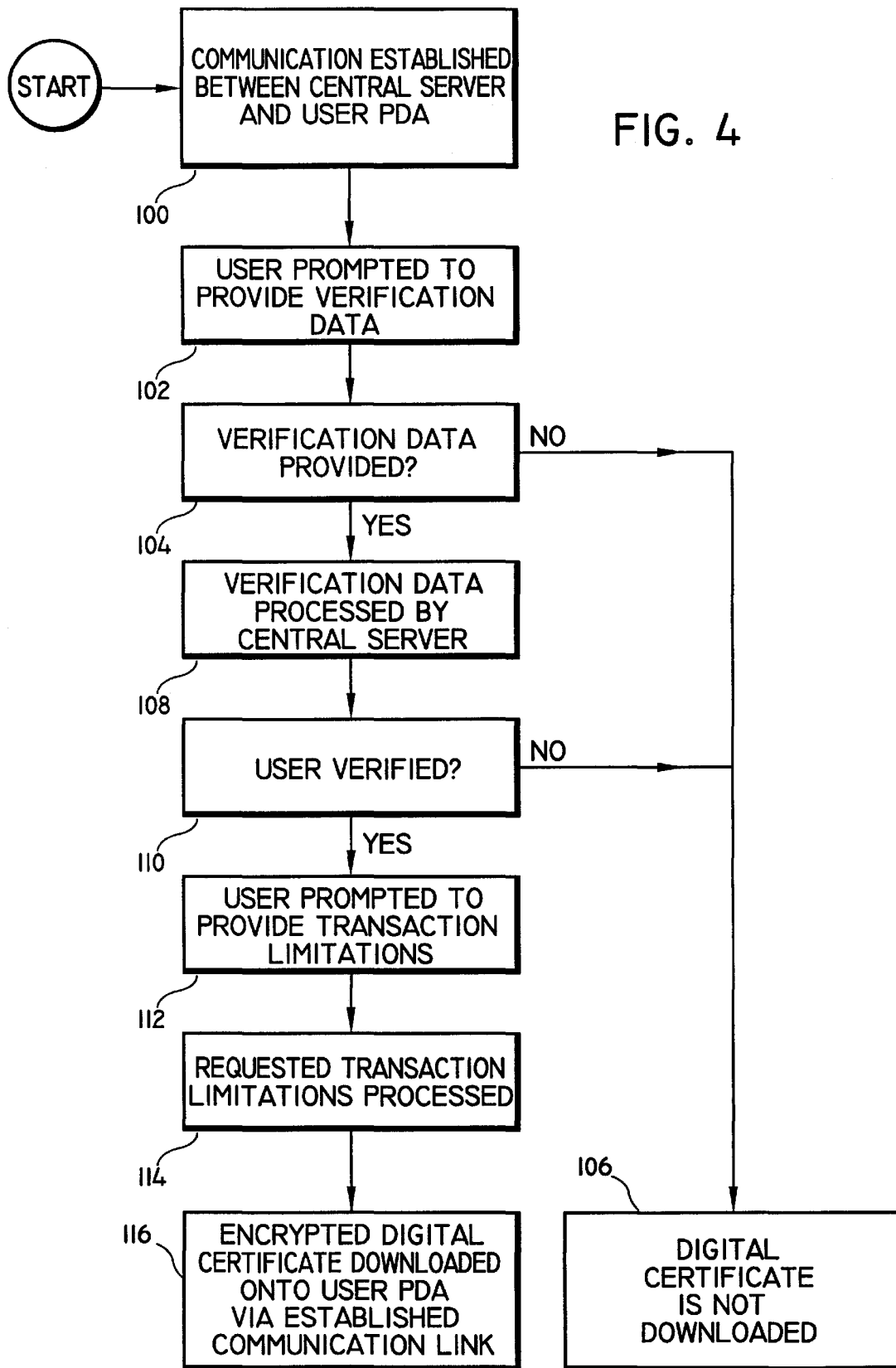


(a)



(b)

FIG. 2



Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.