WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6:

A3

WO 96/36025

G07F 7/08

(43) International Publication Date: 14 November 1996 (14.11.96)

(11) International Publication Number:

(21) International Application Number:

PCT/GB96/01104

(22) International Filing Date:

9 May 1996 (09.05.96)

(30) Priority Data:

9509582.4

11 May 1995 (11.05.95)

GB

(71) Applicant (for all designated States except US): NATIONAL WESTMINSTER BANK PLC [GB/GB]; 41 Lothbury, London EC2P 2BP (GB).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): EVERETT, David, Barrington [GB/GB]; 31 Ashdown Avenue, Brighton, East Sussex BN2 8AH (GB). VINER, John [GB/GB]; Hydes, Woodlands Lane, Wyndlesham, Surrey GU20 6AN (GB). BAI-LEY, Alan [GB/GB]; 24 Worcester Road, Sutton, Surrey SM2 6PG (GB).
- (74) Agent: BOYDELL, John, Christopher; Stevens, Hewlett & Perkins, 1 Serjeants' Inn, Fleet Street, London EC4Y 1LL (GB).

(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, 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).

Published

With international search report.

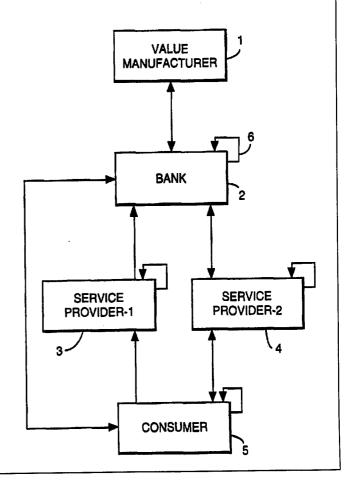
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(88) Date of publication of the international search report: 12 December 1996 (12.12.96)

(54) Title: VALUE TRANSFER SYSTEM

(57) Abstract

The invention is concerned with systems for transferring value between electronic purses, usually in the form of IC or "Smart" cards, via the intermediary of an interface device. In order to control the flow of value between purses a hierarchical class structure is proposed. This is achieved by assigning to each purse a class which controls the conditions under which value may be transferred to an from (mainly from) a purse. Thus each purse stores in memory a representation of its own class, together with a list of those classes to which the purse can transfer value.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AM	Armenia	GB	United Kingdom	MW	Malawi
AT	Austria	GE	Georgia	MX	Mexico
AU	Australia	GN	Guinea	NE	Niger
BB	Barbados	GR	Greece	NL	Netherlands
BE	Belgium	HU	Hungary	NO	Norway
BF	Burkina Faso	IE	Ireland	NZ	New Zealand
BG	Bulgaria	IT	Italy	PL	Poland
BJ	Benin	JP	Japan	PT	Portugal
BR	Brazil	KE	Kenya	RO	Romania
BY	Belarus	KG	Kyrgystan	RU	Russian Federation
CA	Canada	KP	Democratic People's Republic	SD	Sudan
CF	Central African Republic	444	of Korea	SE	Sweden
CG	Congo	KR	Republic of Korea	SG	Singapore
CH	Switzerland	KZ	Kazakhstan	SI	Slovenia
CI	Côte d'Ivoire	LI	Liechtenstein	SK	Slovakia
CM	Cameroon	LK	Sri Lanka	SN	Senegal
CN	China	LR	Liberia	SZ	Swaziland
CS	Czechoslovakia	LT	Lithuania	TD	Chad
CZ	Czech Republic	LU	Luxembourg	TG	Togo
DE	Germany	LV	Latvia	TJ	Tajikistan
DK	Denmark	MC	Monaco	TT	Trinidad and Tobago
EE	Estonia	MD	Republic of Moldova	UA	Ukraine
ES	Spain	MG	Madagascar	UG	Uganda
FI	Finland	ML	Mali	US	United States of America
FR	France	MN	Mongolia	UZ	Uzbekistan
GA	Gabon	MR	Mauritania	VN	Viet Nam

Inter onal Application No PCi/GB 96/01104

A. CLASSIFICATION OF SUBJECT MATTER IPC 6 G07F7/08

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) IPC 6 G07F

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 practical, search terms used)

C. DOCUMENTS	CONSIDERED	10	BE	KELE	IMAN

Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
WO,A,83 03018 (TELEFONAKTIEBOLAGET L.M. ERICSSON) 1 September 1983 see abstract; claims; figures see page 5, line 22 - page 9, line 27	1
EP,A,O 555 683 (PAYTRON) 18 August 1993 see abstract; claims; figures	1 5,6
EP,A,O 619 565 (PITNEY BOWES) 12 October 1994 see abstract; claims; figures 10-12 see column 23, line 5 - line 23	1-7
EP,A,O 256 768 (OKI ELECTRIC INDUSTRY) 24 February 1988 see abstract; claims; figures see column 4, line 21 - line 45	1-3
	WO,A,83 03018 (TELEFONAKTIEBOLAGET L.M. ERICSSON) 1 September 1983 see abstract; claims; figures see page 5, line 22 - page 9, line 27 EP,A,0 555 683 (PAYTRON) 18 August 1993 see abstract; claims; figures EP,A,0 619 565 (PITNEY BOWES) 12 October 1994 see abstract; claims; figures 10-12 see column 23, line 5 - line 23 EP,A,0 256 768 (OKI ELECTRIC INDUSTRY) 24 February 1988 see abstract; claims; figures

X Further documents are listed in the continuation of box C.	Y Patent family members are listed in annex.
 Special categories of cited documents: 'A' document defining the general state of the art which is not considered to be of particular relevance 'E' earlier document but published on or after the international filing date '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) '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 	"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 "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 "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. "&" document member of the same patent family
Date of the actual completion of the international search	Date of mailing of the international search report 31. 10. 96
8 October 1996	

Name and mailing address of the ISA

2

European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo ni, Fax (+31-70) 340-3016

Authorized officer

David, J

Form PCT/ISA/210 (second sheet) (July 1992)

Inte: onal Application No PCI/GB 96/01104

		PC i/GB 96	7/01104
	tion) DOCUMENTS CONSIDERED TO BE RELEVANT		Relevant to claim No.
Category °	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
A	EP,A,O 114 773 (CII HONEYWELL BULL) 1 August 1984		
A	WO,A,93 10503 (CITIBANK) 27 May 1993		
A	EP,A,O 360 613 (BALLY MANUFACTURING) 28 March 1990		
	·		
	·		
,			
		••	
	·	•	

information on patent family members

Inter ional Application No
PCI/GB 96/01104

Patent document	Publication	Patent family	Publication date
cited in search report	date	member(s)	date
W0-A-8303018	01-09-83	EP-A- 0101	
		JP-T- 59500	23-02-84
EP-A-0555683	18-08-93	IT-B- 1260	254 02-04-96
EP-A-0619565	12-10-94	US-A- 4802	218 31-01-89
EP-A-0019305	12-10-34	EP-A- 0619	
		EP-A- 0619	
			5778 15-01-95
			3443 10-01-91
		AU-A- 7961	287 24-03-88
·		CA-A- 1320	
		CA-A- 1326	
		CA-A- 1335	
		CA-A- 1296	
		DE-D- 3750	
		DE-T- 3750	
		EP-A- 0294	
			2781 15-09-94
		JP-T- 1500	
1		WO-A- 8801	
		US-A- 4864	
		US-A- 4900	
		US-A- 4900	9903 13-02-90
EP-A-0256768	24-02-88	JP-B- 7104	1891 13-11-95
E. A 0230700	24 02 00	JP-A- 63039	
		DE-D- 3789	
		DE-T- 3789	
		HK-A- 38	3495 24-03-95
		US-A- 4877	7947 31-10-89
ED 4 0114773	01 00 04	FR-A- 2539	9897 27-07-84
EP-A-0114773	01-08-84		7460 08-07-86
			2676 26-09-94
			2514 04-03-92
		JP-A- 59139	
			5342 07-04-87
UO A 0310503	27-05-93		3601 26-09-95
WO-A-9310503	دلا-دی- ۱۷	U3-M- 343.	JUU1

.formation on patent family members

Interr and Application No PCI/GB 96/01104

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO-A-9310503		AU-A- AU-A- AU-A- AU-B- AU-A- CA-A- CN-A- DE-T- EP-A- HU-A- JP-B- PL-A- US-A- ZA-A-	2013695 2013795 2013895 2013995 658233 2739292 2080452 1073789 542298 0542298 65212 103397 6162059 7111723 300041 5455407 9208773	20-07-95 20-07-95 20-07-95 20-07-95 06-04-95 17-06-93 16-05-93 30-06-93 19-05-93 02-05-94 18-06-96 10-06-94 29-11-95 05-04-94 03-10-95 13-05-93
EP-A-0360613	28-03-90	US-A- AT-T- AU-B- AU-A- DE-D- DE-T-	5179517 116754 613484 3450489 68920391 68920391	12-01-93 15-01-95 01-08-91 29-03-90 16-02-95 27-07-95