

US009600811B2

(12) United States Patent Fisher

(54) INDUCTION BASED TRANSACTIONS AT A POS TERMINAL

(71) Applicant: **Michelle Fisher**, Marina Del Rey, CA

(72) Inventor: **Michelle Fisher**, Marina Del Rey, CA

(72) Inventor: Michelle Fisher, Marina Dei Rey, CA
(US)

(73) Assignee: **Michelle Fisher**, Marina Del Rey, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: 14/686,715

(22) Filed: Apr. 14, 2015

(65) Prior Publication Data

US 2015/0262165 A1 Sep. 17, 2015

Related U.S. Application Data

- (63) Continuation of application No. 13/710,646, filed on Dec. 11, 2012, now Pat. No. 9,015,064, which is a (Continued)
- (51) **Int. Cl. G06Q 20/00** (2012.01) **H04B 7/24** (2006.01)
 (Continued)

(Continued)

(10) Patent No.: US 9,600,811 B2

(45) **Date of Patent:** *Mar. 21, 2017

(58) Field of Classification Search

CPC G06Q 20/00–20/20; G06Q 20/32; G06Q 20/102; G06Q 20/105;

(Continued)

(56) References Cited

U.S. PATENT DOCUMENTS

3,687 A * 7/1844 Hoe G06Q 20/32

235/375 3/2000 Abecassis

6,038,367 A 3/2000 Abecassis (Continued)

FOREIGN PATENT DOCUMENTS

WO WO 2006095212 A1 9/2006

OTHER PUBLICATIONS

Green, J. (2006). Cell phones move into POS payments. Cards & Payments, 19(1), 18(4). Retrieved from http://dialog.proquest.com/professional/docview/676019469?accountid=142257.*

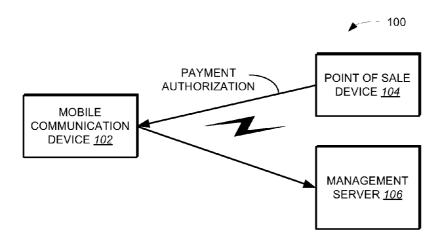
(Continued)

Primary Examiner — Olusegun Goyea

(57) ABSTRACT

A method and system for conducting an online payment transaction through a point of sale device. The method includes receiving input from a user selecting an item for purchase through the point of sale device; calculating a total purchase amount for the item in response to a request from the user to purchase the item; and sending payment authorization for the total purchase amount from the point of sale device to a payment entity, in which the payment authorization is sent to the payment entity via a mobile communication device of the user. The method further includes receiving a result of the payment authorization from the payment entity through the mobile communication device; and completing the payment transaction based on the result of the payment authorization.

25 Claims, 4 Drawing Sheets



	Related U.S. Application Data	(56)		Referen	ices Cited	
	continuation of application No. 11/948,903, filed on Nov. 30, 2007, now Pat. No. 8,352,323.		U.S. PATENT DOCUMENTS			
	1101. 30, 2007, 1101. 110. 0,322,323.	6,10	1,483 A *	8/2000	Petrovich G06Q 20/202	
(51)	Int. Cl. H04B 7/00 (2006.01)	6,11	5,601 A *	9/2000	705/21 Ferreira H04M 15/47	
	H04B 7/ 00 (2006.01) G06F 17/ 00 (2006.01)	6.13	2.250 4 #	0/2000	379/114.2	
	G06K 15/00 (2006.01)	6,12	3,259 A *	9/2000	Ogasawara G06K 17/0022 235/380	
	$G06Q \ 20/20 $ (2012.01)		8,655 A	10/2000	Fields	
	G06Q 40/00 (2012.01)		1,666 A 9,082 B1	10/2000 3/2001		
	G06Q 20/32 (2012.01) G06Q 30/02 (2012.01)		0,557 B1*		Forslund G06K 17/0022	
	G06Q 30/06 (2012.01)	6.41	5,156 B1	7/2002	Stadelmann 235/375	
	$G06Q \ 20/38$ (2012.01)		0,407 B1*		Freeman G06K 19/0723	
	$G06Q \ 20/40 $ (2012.01)	6.50	7025 D18	7/2002	235/376	
	G06Q 20/36 (2012.01)	6,58	7,835 B1*	7/2003	Treyz G06Q 20/12 705/14.64	
	G06Q 20/16 (2012.01) H04W 4/20 (2009.01)		5,120 B1	8/2003	Fields	
	H04W 8/20 (2009.01)		1,981 B1 2,396 B1		Zalewski Cronin	
	H04M 1/725 (2006.01)	6,88	6,017 B1		Jackson	
	H04W 4/18 (2009.01)		0,939 B2 1,945 B1	9/2005	Tobin Donner	
	H04B 5/00 (2006.01)		9,248 B2	6/2006		
	G06Q 20/10 (2012.01) H04W 4/00 (2009.01)		6,003 B2	8/2006		
	H04N 21/81 (2011.01)		0,744 B2 0,792 B2*		Freeny Rosenberg G06Q 20/085	
	G07F 7/10 (2006.01)				235/380	
	H04W 88/02 (2009.01)		7,236 B2 0,578 B2*	10/2006 4/2007	Khan Paltenghe G06F 21/6209	
(50)	H04W 4/02 (2009.01)	, i	,		705/1.1	
(52)	U.S. Cl. CPC <i>G06Q 20/202</i> (2013.01); <i>G06Q 20/204</i>		9,810 B2 8,254 B1		Jagadeesan Rissanen	
	(2013.01); G06Q 20/206 (2013.01); G06Q	7,35	7,312 B2	4/2008	Gangi	
	20/32 (2013.01); G06Q 20/322 (2013.01);	7,37	4,082 B2*	5/2008	Van de Velde G06Q 20/18 235/380	
	G06Q 20/325 (2013.01); G06Q 20/3223	7,37	6,583 B1*	5/2008	Rolf G06Q 20/20	
	(2013.01); G06Q 20/3226 (2013.01); G06Q 20/3227 (2013.01); G06Q 20/3227 (2013.01);	7.27	0.020 D2	£/2009	705/17	
	20/3227 (2013.01); G06Q 20/3278 (2013.01); G06Q 20/3674 (2013.01); G06Q 20/382		9,920 B2 3,226 B2*		Leung Kight G06Q 20/04	
	(2013.01); G06Q 20/3821 (2013.01); G06Q				705/40	
	20/40 (2013.01); G06Q 20/409 (2013.01);	7,39 7.47	2,226 B1 2,829 B2		Sasaki Brown	
	G06Q 20/4012 (2013.01); G06Q 20/4014	7,48	2,925 B2	1/2009	Hammad	
	(2013.01); G06Q 30/02 (2013.01); G06Q 30/0222 (2013.01); G06Q 30/0238 (2013.01);	7,51	2,567 B2*	3/2009	Bemmel G06Q 20/20 705/64	
	G06Q 30/0251 (2013.01); G06Q 30/0253		2,905 B2		Hammad	
	(2013.01); <i>G06Q 30/0255</i> (2013.01); <i>G06Q</i>	7,68	1,788 B2*	3/2010	Van de Velde G06Q 20/18 235/380	
	30/0267 (2013.01); G06Q 30/0268 (2013.01);	7,71	7,334 B1*	5/2010	Rolf G06Q 20/14	
	G06Q 30/06 (2013.01); G06Q 30/0613 (2013.01); G06Q 30/0635 (2013.01); G06Q	7.70	2 622 D2 8	9/2010	235/380	
	40/10 (2013.01); G06Q 40/12 (2013.12);	7,78	3,532 B2*	8/2010	Hsu G06Q 10/087 705/14.11	
	H04B 5/0025 (2013.01); H04M 1/72561	7,78	4,684 B2*	8/2010	Labrou G06Q 20/32	
	(2013.01); H04W 4/18 (2013.01); H04W	7.81	8.284 B1*	10/2010	235/375 Walker G06Q 20/387	
	4/206 (2013.01); H04W 8/205 (2013.01);				705/26.2	
	G06Q 20/10 (2013.01); G06Q 20/105 (2013.01); G06Q 40/00 (2013.01); G07F	7,82	7,056 B2*	11/2010	Walker G06Q 10/101 705/14.1	
	7/1008 (2013.01); H04N 21/812 (2013.01);	7,87	0,077 B2*	1/2011	Woo G06Q 20/02	
	H04W 4/008 (2013.01); H04W 4/02 (2013.01);	7.07	9,519 B2*	7/2011	235/379 Shimata H041 67/2822	
(50)	H04W 88/02 (2013.01)	7,97	9,319 DZ	7/2011	Shigeta H04L 67/2823 370/349	
(58)	Field of Classification Search CPC G06Q 40/00–40/10; G06Q 99/00; G06Q	8,00	5,426 B2*	8/2011	Huomo G06Q 20/20	
	20/04; G06K 5/00; G06K 7/08; G06K	8.01	9,362 B2*	9/2011	235/441 Sweatman H04W 4/12	
	7/10237; G06K 15/00; G06K 19/07;				455/455	
	H04W 12/12; H04W 4/24; H04L 63/08;	8,07	3,424 B2*	12/2011	Sun G06Q 20/085 455/406	
	H04Q 7/24	8,08	6,534 B2*	12/2011	Powell G06Q 20/32	
	USPC 455/41.1, 406–410, 556.1, 558, 41.2, 39; 705/16, 18, 30, 40, 41, 44, 64;	Q 1A	9,444 B2*		705/44 Jain G06K 19/07739	
	235/375–385, 451, 462, 492; 370/338	0,10	ν, 	212012	235/487	
	See application file for complete search history.	8,12	1,945 B2	2/2012	Rackley	

US 9,600,811 B2 Page 3

(56)		Referen	nces Cited	2004/0078329	A1*	4/2004	Kight G06Q 20/04
	U.S.	PATENT	DOCUMENTS	2004/0083167	A1*	4/2004	705/40 Kight G06Q 20/04
8,127,984	B2*	3/2012	Zatloukal G06K 7/0008	2004/0093271	A1*	5/2004	705/40 Walker G06Q 30/02
8,196,818	B2 *	6/2012	235/375 Van de Velde G06Q 20/045	2004/0111320	A1*	6/2004	705/14.17 Schlieffers A47F 9/047 705/16
8,214,454	B1 *	7/2012	235/380 Barnes G06F 17/30876 709/217	2004/0116074	A1*	6/2004	Fujii G06K 7/0008 455/41.2
8,429,030	B2 *	4/2013	Walker G06Q 30/02 705/14.38	2004/0127256	A1*	7/2004	Goldthwaite G06K 7/0004 455/558
8,429,031	B2 *	4/2013	Walker G06Q 30/02 705/14.38	2004/0235450	A1*	11/2004	Rosenberg G06Q 20/085 455/406
8,438,077	B2 *	5/2013	Walker G06Q 30/02 705/14.38	2004/0243519 2004/0254836		12/2004 12/2004	
8,438,078	B2 *		Walker G06Q 30/02 705/14.38	2004/0267618			705/14.35 Judicibus
8,467,766	B2 *		Rackley, III G06Q 20/042 455/406	2004/0267665 2005/0003810	A1	12/2004 1/2005	Chu
8,489,067	B2 *		Rackley, III G06Q 20/102 455/406	2005/0040230			Swartz G06K 17/00 235/383
8,510,220			Rackley, III G06Q 20/102 705/39	2005/0043994			Walker B42D 15/00 705/14.19
2001/0011250			Paltenghe G06F 21/6209 705/41	2005/0076210 2005/0077356		4/2005 4/2005	Thomas Takayama G06K 7/10237 235/451
2001/0044751			Pugliese, III G06Q 30/02 705/14.1	2005/0165646	A1*	7/2005	Tedesco B42D 15/00 705/14.1
2002/0056091			Bala	2005/0187873	A1*	8/2005	Labrou G06Q 20/02 705/40
2002/0059100 2002/0063895		5/2002 5/2002		2005/0215231			Bauchot
2002/0065774	A1*	5/2002	Young G06Q 20/02 705/41	2006/0031752			Surloff
2002/0077918 2002/0082879		6/2002 6/2002	Lerner Miller	2006/0049258	A1*	3/2006	Piikivi G05B 19/00 235/451
2002/0107756	A1	8/2002	Hammons	2006/0065741	A1*	3/2006	Vayssiere G06K 19/07703
2002/0116269			Ishida G06Q 30/02 705/14.64	2006/0089874	A1*	4/2006	Newman G06Q 30/02
2002/0160761			Wolfe	2006/0143091	A1*	6/2006	705/14.32 Yuan G06Q 20/343
2002/0169664			Walker B42D 15/00 705/14.36	2006/0165060	A1*	7/2006	705/26.1 Dua
2002/0169984 2003/0061113		11/2002 3/2003	Petrovich G06Q 10/087 705/26.43	2006/0191995	A1*	8/2006	370/352 Stewart G06F 21/6245 235/379
2003/0065805	A1	4/2003	Barnes	2006/0206709	A1*	9/2006	Labrou G06Q 20/18
2003/0066883	A1*	4/2003	Yu G06K 7/1095	2006/0218092	A 1 *	0/2006	713/167 Tedesco B42D 15/00
2003/0074259	A1*	4/2003	235/382 Slyman, Jr				705/40 Swartz G06K 17/00
2003/0085286	A1*	5/2003	Kelley G06K 19/073 235/492				235/383 Fujii H04B 5/0056
2003/0087601	A1*	5/2003	Agam G06F 21/34 455/39				370/338 Fuqua G06Q 20/0658
2003/0093695		5/2003	Dutta				455/558
2003/0105641 2003/0132298		6/2003 7/2003	Swartz G06K 17/00	2006/028/920	A1 "	12/2006	Perkins G06Q 30/0251 705/14.49
			235/472.02	2006/0294025	A1*	12/2006	Mengerink G06Q 20/085
2003/0140004 2003/0163359			O'Leary Kanesaka G06Q 30/0204	2007/0004391	Δ1	1/2007	705/77 Maffeis
2003/0103333	711	0,2003	705/7.33	2007/0011099			Sheehan G06Q 20/32
2003/0172028		9/2003		2005/001252			705/65
2004/0006497 2004/0030658		2/2004	Nestor	2007/0012763	Al T	1/2007	Van de Velde G06Q 20/18 235/380
2004/0034544		2/2004		2007/0021969	A1*	1/2007	Homeier-Beals G06Q 20/06
2004/0064407			Kight G06Q 20/04				705/1.1
2004/0064408	A1*	4/2004	705/40 Kight G06Q 20/04	2007/0022058			Labrou G06Q 20/32 705/67
2004/0064409	A1*	4/2004	705/40 Kight G06Q 20/04	2007/0052517			Bishop G06Q 20/10 340/5.2
2004/0064410	A1*	4/2004	705/40 Kight G06Q 20/04	2007/0075133			Yeager H04L 63/08 235/380
2004/0073497	A1*	4/2004	705/40 Hayes G06Q 30/0601	2007/0095892 2007/0125838		5/2007 6/2007	Law G06Q 20/04
			705/26.1				235/379

US 9,600,811 B2

Page 4

(56)	Referen	nces Cited	2008/0133336	A1*	6/2008	Altman G06Q 30/0207
U.S. 1	PATENT	DOCUMENTS	2008/0139155 2008/0140520			455/456.1 Boireau
2007/0125840 A1*	6/2007	Law	2008/0140320			Hyder G06Q 20/342 705/14.1 Machani G06F 21/6245
2007/0131759 A1*	6/2007	Cox G06Q 20/341 235/380	2008/0167017			713/150 Wentker G06Q 20/10
2007/0138299 A1*	6/2007	Mitra G06K 19/0719 235/492	2008/0167961	A1*	7/2008	455/414.1 Wentker G06Q 20/10
2007/0156436 A1*		Fisher G06Q 20/102 455/552.1	2008/0167988	A1*	7/2008	705/14.25 Sun G06Q 20/085
2007/0179883 A1*		Questembert G06Q 20/06 705/39	2008/0172274	A1*	7/2008	705/39 Hurowitz H04W 4/02
2007/0194110 A1*		Esplin G06Q 20/20 235/383	2008/0172285	A1*	7/2008	455/433 Hurowitz G06Q 30/02
2007/0198334 A1*		Mebruer	2008/0172291	A1*	7/2008	455/414.1 Hurowitz
2007/0210155 A1*		Swartz G06K 17/00 235/383	2008/0172292	A1*	7/2008	Hurowitz G06Q 30/02 705/14.14
2007/0235519 A1 2007/0235539 A1*	10/2007 10/2007	Sevanto G06K 7/10237 235/451	2008/0177668 2008/0207234			Delean Arthur G06Q 20/20
2007/0255662 A1 2007/0262139 A1*	11/2007 11/2007	Tumminaro Fiebiger G06Q 20/20	2008/0208681	A1	8/2008	455/466 Hammad
2007/0270166 A1*	11/2007	235/380 Hampel H04L 12/5865	2008/0208743			Arthur G06Q 40/00 705/41
2007/0293155 A1*	12/2007	455/456.3 Liao G06Q 20/32	2008/0208744			Arthur G06Q 20/105 705/41
2008/0004952 A1*	1/2008	455/41.2 Koli G06Q 30/02	2008/0208762 2008/0221997			Arthur G06Q 20/027 705/79
2008/0006685 A1*	1/2008	705/14.55 Rackley, III G06Q 20/10 235/379	2008/0221997			Wolfe
2008/0010190 A1*	1/2008	Rackley, III G06Q 20/042 705/39				455/41.1 Drake-Stoker G06Q 20/12
2008/0010191 A1*	1/2008	Rackley, III G06Q 20/042 705/39				705/44 Van de Velde G06Q 20/045
2008/0010192 A1*	1/2008	Rackley, III G06Q 20/042 705/39				235/380 Friedman G06Q 20/20
2008/0010193 A1*		Rackley, III G06Q 20/042 705/39				705/35 Michaelis
2008/0010196 A1*		Rackley, III G06Q 20/102 705/40				705/14.26 Mathieson G06Q 30/02
2008/0010204 A1*		Rackley, III G06Q 20/042 705/45				463/25 Lakshminarayanan G06Q 20/02
2008/0010215 A1*		Rackley, III G06Q 20/042 705/70	2008/0294556	A1	11/2008	705/39 Anderson
2008/0017704 A1*		Lu	2008/0305774 2009/0018913			Ramakrishna Sarukkai G06Q 30/02
2008/0017704 A1* 2008/0027795 A1*		VanDeburg	2009/0061884	A1*	3/2009	705/14.56 Rajan G06Q 30/02
2008/0040265 A1*		705/14.14 Rackley, III G06Q 20/02	2009/0063312	A1*	3/2009	455/445 Hurst G06Q 20/105
2008/0045172 A1*		705/40 Narayanaswami G06Q 30/02	2009/0075592			705/30 Nystrom
2008/0046366 A1		455/187.1 Bemmel	2009/0076912			Rajan G06Q 30/0267 705/14.64
2008/0048022 A1*		Vawter G06Q 20/32 235/380	2009/0098825 2009/0104888			Huomo Cox G06F 21/31
2008/0051059 A1*		Fisher G06Q 20/20 455/410	2009/0106112	A1*	4/2009	455/410 Dalmia G06Q 20/04
2008/0051142 A1*		Calvet H04W 88/02 455/558	2009/0112747	A1*	4/2009	705/14.17 Mullen G06Q 20/04
2008/0052192 A1*		Fisher	2009/0124234	A1*	5/2009	705/35 Fisher G06Q 20/32
2008/0052233 A1* 2008/0059329 A1*		Fisher	2009/0132362	A1*	5/2009	Fisher G06Q 10/06 705/14.47
2008/0039329 A1 2008/0104098 A1*		705/26.35 Li G06Q 20/341	2009/0143104	A1*	6/2009	Loh G06Q 20/32 455/558
2008/0126145 A1*		Rackley, III G06Q 20/102 455/406	2009/0144161	A1*	6/2009	Fisher G06Q 20/20 705/16
2008/0126260 A1*	5/2008	Cox	2009/0177587	A1*	7/2009	Siegal G06F 21/32 705/67

(56) References Cited

U.S. PATENT DOCUMENTS

2009/0227281 A	1* 9/2009	Hammad G06K 19/07309
		455/550.1
2010/0057619 A	1* 3/2010	Weller G06Q 20/02
		705/67
2010/0063895 A	1* 3/2010	Dominguez G06Q 20/02
2010/0003033 A	3/2010	705/26.1
2010/0145835 A	1* 6/2010	
Z010/0143833 A	11 ' 0/2010	
		705/30
2010/0252624 A	11* 10/2010	Van de Velde G06Q 20/045
		235/382
2010/0312694 A	12/2010	Homeier-Beals G06Q 20/10
		705/39
2011/0055038 A	1* 3/2011	Mengerink G06Q 20/085
2011,0000000	3,2011	705/26.1
2011/0212751 A	1* 9/2011	Havens G06K 7/10881
2011/0212/31 A	11 9/2011	
2011/0220216	1 1 1 2 2 2 2 1 1	455/556.1
2011/0320316 A	12/2011	Randazza G06Q 20/02
		705/26.43
2012/0030044 A	1* 2/2012	Hurst G06Q 20/105
		705/18
2012/0150744 A	1* 6/2012	Carlson G06O 20/02
		705/44
2012/0215573 A	1* 8/2012	Sussman G06F 9/50
2012/0213373 1	11 0/2012	705/5
2012/0220314 A	1.8 0/2012	
Z01Z/0ZZ0314 A	A1* 8/2012	Altman G06Q 30/0207
		455/456.3
2012/0265677 A	10/2012	Rackley, III G06Q 20/02
		705/41
2013/0013501 A	1/2013	Rackley, III G06Q 20/02
		705/41
2013/0054470 A	1* 2/2013	Campos G06Q 20/36
		705/67
2013/0212016 A	1* 8/2013	Davis G06Q 20/10
2013/0212010 A	11 0/2013	705/42
		/03/42

OTHER PUBLICATIONS

Bull continues roll-out of odyssey java smart card program; java development kit, java-based electronic purse application featured at CardTech/SecurTech. (Apr. 28, 1998). Business Wire Retrieved from http://dialog.proquest.com/professional/docview/666328347?accountid=142257.*

Schneider, I. (2003). R.F.I.D. in the U.S.A. Bank Systems + Technology, 40(9), 9(1). Retrieved from http://dialog.proquest.com/professional/docview/667548714?accountid=142257.*

U.S. Appl. No. 11/933,337, Office Action mailed May 27, 2010, 9 p.

p.
U.S. Appl. No. 11/933,351, Office Action mailed Oct. 3, 2008, 5 p.
U.S. Appl. No. 11/933,367, Office Action mailed May 27, 2010, 8

p. U.S. Appl. No. 11/467,441, Office Action mailed May 27, 2009, 17

p. U.S. Appl. No. 12/592,581, Office Action mailed Jun. 4, 2010, 20 p.

p.
U.S. Appl. No. 11/933,351, Office Action mailed Jul. 8, 2009, 7 p.
U.S. Appl. No. 11/939,821, Office Action mailed Aug. 17, 2010, 11

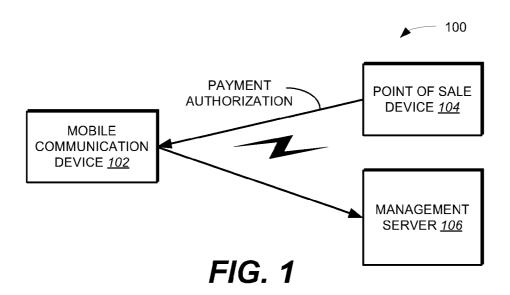
p. U.S. Appl. No. 11/933,351, Office Action mailed Aug. 18, 2010, 16

p.U.S. Appl. No. 11/933,321, Office Action mailed May 27, 2010, 11p.

Deena, M. Amato, "Mobile Rewards." Chain Store Age 82.5 (2006): 160, 161, 163. Hoover's Company Profiles; ProQuest Central. Web. Oct. 5, 2012.

"ViVOtech to Demonstrate Industry's First End-to-End Near Field Communication (NFC) Solution at the NRF Show." Business Wire: 1 Jan. 16, 2006. Business Dateline; Hoover's Company Profiles; ProQuest Central. Web. Oct. 5, 2012. EMCA Specification Standard, 2002.

^{*} cited by examiner



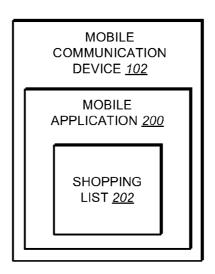


FIG. 2

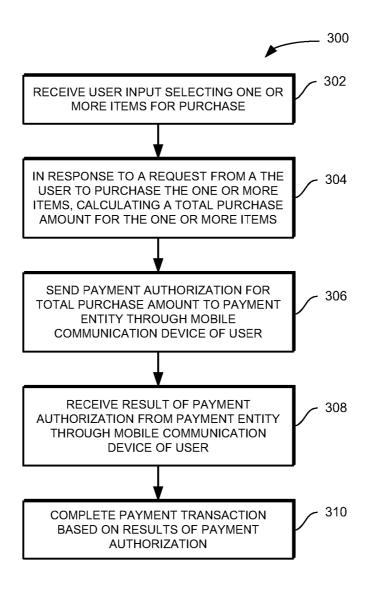


FIG. 3

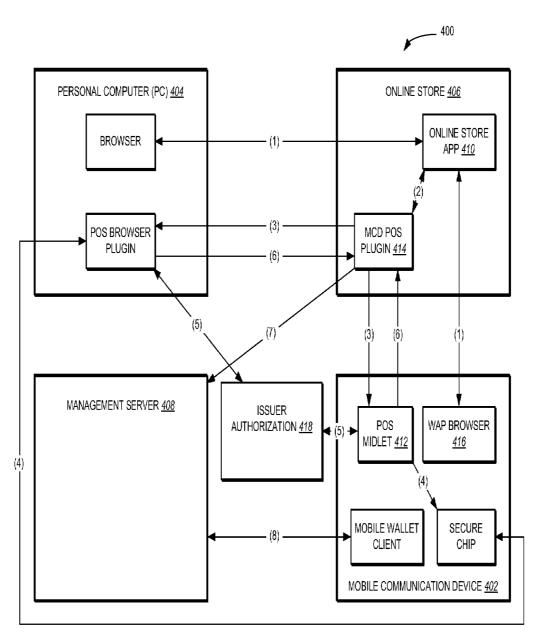
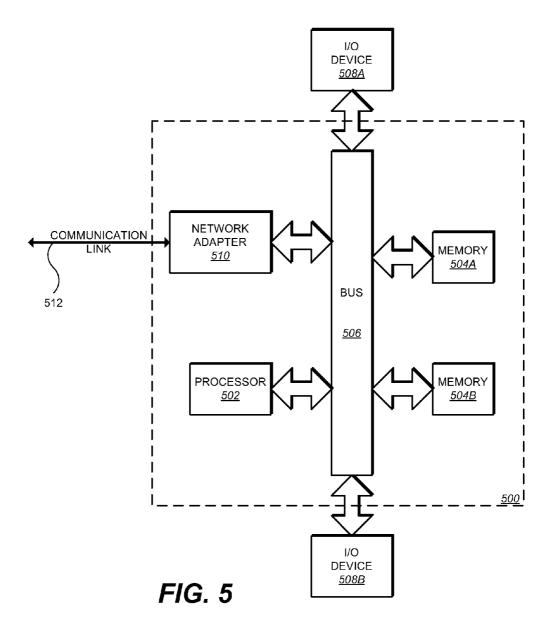


FIG. 4



INDUCTION BASED TRANSACTIONS AT A POS TERMINAL

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation and claims priority to U.S. application Ser. No. 13/710,646, filed Dec. 11, 2012, titled UTILIZING SHOPPING LISTS FOR NFC TRANS-ACTIONS which is a continuation and claims priority to U.S. application Ser. No. 11/948,903, filed Nov. 30, 2007, titled METHOD AND SYSTEM FOR CONDUCTING AN ONLINE PAYMENT TRANSACTION USING A MOBILE COMMUNICATION DEVICE, all of which is incorporated by reference herein in its entirety.

FIELD OF INVENTION

The present invention relates to data communications and wireless devices.

BACKGROUND OF THE INVENTION

Mobile communication devices—e.g., cellular phones, personal digital assistants, and the like—are increasingly 25 being used to conduct payment transactions as described in U.S. patent application Ser. No. 11/933,351, entitled "Method and System For Scheduling A Banking Transaction Through A Mobile Communication Device", and U.S. patent application Ser. No. 11/467,441, entitled "Method and 30 Apparatus For Completing A Transaction Using A Wireless Mobile Communication Channel and Another Communication Channel, both of which are incorporated herein by reference. Such payment transactions can include, for example, purchasing goods and/or services, bill payments, 35 and transferring funds between bank accounts.

BRIEF SUMMARY OF THE INVENTION

In general, this specification describes a method and 40 system for conducting an online payment transaction through a point of sale device. The method includes receiving input from a user selecting an item for purchase through the point of sale device; calculating a total purchase amount for the item in response to a request from the user to 45 purchase the item; and sending payment authorization for the total purchase amount from the point of sale device to a payment entity, in which the payment authorization is sent to the payment entity via a mobile communication device of the user. The method further includes receiving a result of 50 the payment authorization from the payment entity through the mobile communication device; and completing the payment transaction based on the result of the payment authorization.

Particular implementations can include one or more of the 55 following features. The point of sale device can be a desktop computer, a laptop computer, or a terminal. The mobile communication device can be a cellular phone, a wireless personal digital assistant (PDA), or a laptop computer. The cellular phone can be an NFC-enabled phone. Sending 60 payment authorization for the total purchase amount from the point of sale device to a payment entity can include sending the payment authorization securely to the payment entity. The payment entity can be a person, a computer system, or a bank. The method can further include maintaining a shopping list on the mobile communication device of the user, in which the shopping list includes a listing of

2

one or more items to be purchased by the user. The payment authorization can be an authorization for payment with a credit card, a debit card, or a prepaid card.

The details of one or more implementations are set forth in the accompanying drawings and the description below. Other features and advantages will be apparent from the description and drawings, and from the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates a block diagram of a communication system including a wireless mobile communication device and a management server in accordance with one implementation.

FIG. 2 illustrates one implementation of the wireless mobile communication device of FIG. 1.

FIG. 3 is a method for conducting a payment transaction using a point of sale device in accordance with one implementation.

FIG. 4 illustrates a block diagram of a communication system including a wireless mobile communication device and an online store in accordance with one implementation.

FIG. 5 is a block diagram of a data processing system suitable for storing and/or executing program code in accordance with one implementation.

Like reference symbols in the various drawings indicate like elements.

DETAILED DESCRIPTION OF THE INVENTION

FIG. 1 illustrates one implementation of a communication system 100. The communication system 100 includes a hand-held, wireless mobile communication device 102 a point-of-sale device 104 and a management server 106. In one implementation, the mobile communication device 102 includes a mobile application (discussed in greater detail below) that permits a user of the mobile communication device 102 to conduct payment transactions. Payment transactions can include, for example, using contactless payment technology at a retail merchant point of sale (e.g., through point of sale device 104), using mobile/internet commerce (e.g., purchase tickets and products, etc.), storage of payment information and other digital artifacts (e.g., receipts, tickets, coupons, etc.), storage of banking information (payment account numbers, security codes, PIN's, etc.), and accessing banking service (account balance, payment history, bill pay, fund transfer, etc.), and so on. The mobile communication device 102 can be a cellular phone, a wireless personal digital assistant (PDA), a laptop computer, or other wireless communication device. The point of sale device 104 can be a desktop computer, laptop computer, terminal, or other device that is configured to receive user input selecting items for purchase or other transaction.

In one implementation, authorizations for payment transactions that are made through the point of sale device 104 are sent from the point of sale device 104 to an issuer authorization (e.g., management server 106) through the mobile communication device 102 (as shown in FIG. 1). In one implementation, an issuer authorization is a payment entity that either approves or disapproves a payment transaction. An issuer authorization can be, e.g., a person, computer system, bank (or other third party). One potential benefit of having payment authorizations flow through the mobile communication device 102 is that sensitive user information (e.g. account numbers, pin numbers, and/or identity information) need only be sent from the mobile

communication device 102 directly to an issuer authorization. Such operation reduces the potential for identity theft and/or fraudulent purchases made through a point of sale device. For example, (in one implementation) payment authorizations cannot be sent to an issuer authorization if the 5 mobile communication device 102 is turned off.

FIG. 2 illustrates one implementation of the mobile communication device 102. The mobile communication device 102 includes a mobile application 200 that (in one implementation) is provided to the mobile communication device 10 102 through a remote server (e.g., management server 106). In one implementation, the mobile application is a Mobile Wallet application available from Mobile Candy Dish, Inc., of Alameda, Calif. In one implementation, the mobile application is a hosted service, as described in U.S. patent 15 application Ser. No. 11/939,821, entitled "Method and System For Securing Transactions Made Through a Mobile Communication Device", which is incorporated herein by reference. In one implementation, the mobile application 200 is configured to send requests to the management server 20 for artifacts based on user input, e.g., received though a keypad (not shown) of the mobile communication device 102. Requests to the management server 106 can also be automated, via proximity-based services, e.g., consumer tapping (or in close proximity) an LBS/contactless/RFID 25 enabled phone against a smart poster (RFID/Bluetooth/LBS enabled, etc.), kiosk, or other device.

In one implementation, the mobile application 200 running on the mobile communication device 102 is configured to receive artifacts (e.g., advertisements, receipts, tickets, 30 coupons, media, content, and so on) from the management server 106. In one implementation, the management server 106 sends artifacts to the mobile application based on user profile information and/or a transaction history (or payment trends) associated with a user of the mobile communication 35 device 102 as described in U.S. patent application Ser. No. 11/944,267, entitled "Method and System For Delivering Information To a Mobile Communication Device Based On Consumer Transactions", which is incorporated herein by reference.

In one implementation, the mobile communication device 102 is an NFC-enabled phone. The mobile communication device 102 can be NFC-enabled, for example, through an embedded chip or a sticker that is affixed to the cellular phone, as described in U.S. application Ser. No. 11/933,321, 45 entitled "Method and System For Adapting a Wireless Mobile Communication Device For Wireless Transactions", which is incorporated herein by reference. In one implementation, the NFC chip (or sticker) on the cellular phone can be used in conjunction with a merchant's point of sale 50 device as described in greater detail below.

For example, with reference to FIG. 4, in one implementation, the NFC chip (or sticker) on the cellular phone can communicate with NFC chips that are installed on the front of PC's (TV's, Kiosks, or any other device) and serve as 55 scanners/readers. In this implementation a mobile candy dish applet (e.g., MCD POS plugin 414) is installed on the consumer's computer (e.g., PC 404) which interfaces with the NFC chip on the PC. When a consumer (or user) is shopping online and they are ready to pay for their products, 60 the consumer opens his mobile wallet and selects one of the payment methods (e.g., credit card, debit card, prepaid card, etc.) from their mobile wallet. If a default card has been selected already, this step is not necessary. The consumer then waves their phone over the NFC reader present on the 65 PC 404. The consumer's payment credentials are transferred from the phone to the merchant website (e.g., online store

4

application 410) using a communication protocol between the chip in the phone and the chip in the PC, which can be radio frequency for example. If the consumer has coupons in their mobile wallet the consumer can either elect to manually apply the coupon, save the coupon for a future use (against a larger purchase for example), or have the coupon automatically applied during the transaction and the transaction amount is updated. After the consumer enters any necessary validation information (e.g., pin) to provide a multi-factor authentication and confirms the transaction, the online purchase is processed as normal by the merchant's online processor. The mobile wallet can retrieve transaction data, account balance from the management server 408.

In one implementation, the mobile communication device 102 is a non NFC-enabled phone. In this implementation, the consumer connects his phone to the PC 404 via some non radio frequency method (e.g., IR, Bluetooth, USB cable, etc.). When a consumer is shopping online and they are ready to pay for their products, the consumer opens his mobile wallet and selects one of the payment methods (e.g., credit card, debit card, prepaid card, etc.) from their mobile wallet. If a default card has been selected already, this step is not necessary. The consumer then pushes, e.g., a "Buy now" button and the consumer's payment credentials are transferred from the phone to the merchant website (e.g., online store application 410) using the protocol between the phone and the PC 404 which can be radio frequency, for example. If the consumer has coupons in their mobile wallet the consumer can either elect to manually apply the coupon, save the coupon for a future use, or have the coupon automatically applied during the transaction and the transaction amount is updated. After the consumer enters any necessary validation information (e.g., pin) to provide multifactor authentication and confirms the transaction, the online purchase is processed as normal by the merchant's online processor. The mobile wallet can retrieve transaction data and account balance from the management server 408.

In one implementation, the management server 408 and merchant portal (e.g., online store 408) are maintained by 40 trusted parties and use an encrypted tunnel to transfer financial data. When the consumer is ready to pay for their online product, they enter their cell phone number on the merchant portal. The merchant portal (which has an MCD applet (e.g., MCD POS plugin 414) installed on its server) securely connects to the management server 408 (that in one implementation is maintained by Mobile Candy Dish (MCD)). In one implementation, the management server 408 identifies the consumer through their cell phone number, and verifies the consumer's authenticity by sending a unique transaction code to the consumer mobile wallet on their cell phone. The consumer then enters this unique transaction code onto the merchant's web portal. The merchant portal sends this transaction number to the management server 408 for authentication. Upon authentication, the consumer's virtual wallet and payment methods (e.g., credit card, debit card, prepaid card, etc.) are securely retrieved from the management server 408 and are displayed to the consumer in a window on a website associated with the merchant portal. The consumer selects one of these payment methods to pay for their transaction. If a default card has been selected already, this step is not necessary. If the consumer has coupons in their mobile wallet the consumer can either elect to manually apply the coupon, save the coupon for a future use, or have the coupon automatically applied during the transaction and the transaction amount is updated. After the consumer enters any necessary validation information to provide a multi-factor authentication and confirms the trans-

action, the online purchase is processed as normal by the merchant's online processor. The mobile wallet can retrieve transaction data, account balance from the management server 408.

Referring to FIG. 2, in one implementation, the mobile 5 application 200 maintains a shopping list 202 for a consumer. Accordingly, consumers have the ability to store their shopping list in their mobile wallet and add, delete, or change items on their shopping list either in offline or online mode. In one implementation, consumers are sent coupons 10 based on items on their shopping list, preferences, previous shopping history, proximity to the physical retail store, or a combination of these parameters, as discussed in application Ser. No. 11/944,267, which is incorporated by reference above. If the consumer has coupons in their mobile wallet 15 the consumer can either elect to manually apply the coupon, save the coupon for a future use, or have the coupon automatically applied during the transaction and the transaction amount is updated. When a consumer wants to order the items on their shopping list via an on online merchant (in 20 contrast to a physical retail store), the consumer can logon to the merchant portal and electronically transmit their shopping list to the merchant portal either by waving their phone over NFC enabled PC's or some other connection such as IR, bluetooth, USB, or the like.

FIG. 3 illustrates a method 300 for conducting a payment transaction using a point of sale device (e.g., point of sale device 104). User input is received selecting one or more items for purchase (e.g., at the point of sale device) (step **302**). In general, the transaction being made at the point of 30 sale device can be any type of transaction that involves the exchange or transfer of funds—e.g., the transaction can be a payment transaction, a fund transfer, or other type of transaction. In response to a request from the user to purchase the one or more items, a total purchase amount for 35 the one or more items is calculated (e.g., by the point of sale device) (step 304). If the user has coupons in their mobile wallet the user can either manually apply the coupon or have the coupon automatically applied during the transaction and the transaction amount is updated. The user request to 40 purchase an item can be received, e.g., by a user clicking on a "buy now" icon that is displayed on a graphical user interface of the point of sale device. Payment authorization for the total purchase amount is sent to a payment entity through a mobile communication device of the user (step 45 306). A result of the payment authorization is received at the point of sale device from the payment entity via the mobile communication device (step 308). The payment transaction is completed based on the result of the payment authorization (step 310). If the payment transaction was authorized by 50 the payment entity, then the sale of the items through the point of sale device is completed. Otherwise, if the payment transaction was not authorized by the payment entity, then the point of sale device terminates the payment transaction.

FIG. 4 illustrates an example payment transaction being 55 made in a communication system 400 in accordance with one implementation. The communication system 400 includes a mobile communication device 402, a personal computer (PC) 404, an online store 406, and a core (or datastore) 408. As indicated by interaction (1), a user (or customer), using a phone (e.g., mobile communication device 402 or personal computer 404), browses an online store website (online store application 410) and finds an item that the customer wishes to purchase. This could also be a purchase made through a midlet application (POS midlet 65 412) residing on the mobile communication device 402. The user then goes to, e.g., a checkout of the online store 406

6

make a purchase. If the user has coupons in their mobile wallet the user can either manually apply the coupon or have the coupon automatically applied during the transaction and the transaction amount is updated. When it comes time to authorize the purchase, (in one implementation) the user is given an option to purchase with the mobile communication device 402. In one implementation, the mobile communication device 402 is an NFC-equipped phone (or NFC phone).

In interaction (2), when the user chooses to purchase with the mobile communication device 402, the online store application 410 sends the transaction information for authorization to the POS vendor plugin (e.g., MCD POS plugin 414). In one implementation, the POS vendor plugin is installed in the merchant's online store and enables the merchant to accepts MCD Blaze payments as an alternative form of payment, similar to accepting credit cards for payment. As shown by interaction (3), the POS vendor plugin formats, encrypts, and cryptographically signs the purchase authorization request which is sent via a secure SSL link (e.g., HTTPS, Bluetooth, IR, USB, or other suitable protocol) established by the browser/web application 416 back to the mobile communication device 402. As with the first scenario, all communications is over secure channels. (It may be required that the mobile wallet application be opened prior to beginning a phone online purchase.) The POS midlet 412 is a component of the mobile wallet application that executes PayPass or other payment authorization protocol between itself and the SE payment applications on the mobile communication device 402 (interaction (4)). The results of the request are sent back to the POS vendor plugin.

As shown by interaction (5), the POS midlet 412 then forwards the properly formatted authorization request to a payment entity (e.g., issuer authorization 418) for authorization. The results of the request are then sent back to the POS component of the mobile wallet. Through interaction (6), the POS midlet 412 then forwards the results back to the MCD POS plugin 414 to complete the purchase. The MCD POS plugin 414 then forwards the purchase transaction information to the management server 408 for later customer viewing (interaction (7)). As indicated by interaction (8), users (or customers) will then be able to query the management server 408 and immediately obtain purchase information, either by phone or PC.

One or more of method steps described above can be performed by one or more programmable processors executing a computer program to perform functions by operating on input data and generating output. Generally, the invention can take the form of an entirely hardware embodiment, an entirely software embodiment or an embodiment containing both hardware and software elements. In one implementation, the invention is implemented in software, which includes but is not limited to firmware, resident software, microcode, etc. Furthermore, the invention can take the form of a computer program product accessible from a computerusable or computer-readable medium providing program code for use by or in connection with a computer or any instruction execution system. For the purposes of this description, a computer-usable or computer readable medium can be any apparatus that can contain, store, communicate, propagate, or transport the program for use by or in connection with the instruction execution system, apparatus, or device. The medium can be an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system (or apparatus or device) or a propagation medium. Examples of a computer-readable medium include a semiconductor or

solid state memory, magnetic tape, a removable computer diskette, a random access memory (RAM), a read-only memory (ROM), a rigid magnetic disk and an optical disk. Current examples of optical disks include compact disk—read only memory (CD-ROM), compact disk—read/write 5 (CD-R/W) and DVD.

FIG. 5 illustrates a data processing system 500 suitable for storing and/or executing program code. Data processing system 500 includes a processor 502 coupled to memory elements 504A-B through a system bus 506. In other imple- 10 mentations, data processing system 500 may include more than one processor and each processor may be coupled directly or indirectly to one or more memory elements through a system bus. Memory elements 504A-B can include local memory employed during actual execution of 15 the program code, bulk storage, and cache memories that provide temporary storage of at least some program code in order to reduce the number of times the code must be retrieved from bulk storage during execution. As shown, input/output or I/O devices 508A-B (including, but not 20 limited to, keyboards, displays, pointing devices, etc.) are coupled to data processing system 500. I/O devices 508A-B may be coupled to data processing system 500 directly or indirectly through intervening I/O controllers (not shown).

In one implementation, a network adapter **510** is coupled 25 to data processing system **500** to enable data processing system **500** to become coupled to other data processing systems or remote printers or storage devices through communication link **512**. Communication link **512** can be a private or public network. Modems, cable modems, and 30 Ethernet cards are just a few of the currently available types of network adapters.

Although the present invention has been particularly described with reference to implementations discussed above, various changes, modifications and substitutes are 35 can be made. Accordingly, it will be appreciated that in numerous instances some features of the invention can be employed without a corresponding use of other features. Further, variations can be made in the number and arrangement of components illustrated in the figures discussed 40 above.

What is claimed is:

1. A method for conducting a Near Field Communication (NFC) transaction at a point of sale terminal, the method comprising:

transmitting an NFC inductive signal and triggering an NFC interaction with a secure element which activates a secure element processor to execute an NFC application stored in a secure element memory by using a point of sale terminal processor, wherein the secure 50 element processor, the secure element memory, and an NFC transceiver are included in the secure element permanently embedded within the body of a mobile device, the mobile device including a mobile device display, a mobile device memory, a mobile device 55 processor, and a mobile device transceiver;

receiving an identification code from the secure element memory via the NFC application, by using a point of sale terminal NFC transceiver during the NFC interaction; and

sending the identification code from the point of sale terminal to a management server, and further wherein a payment method corresponding to the wherein the identification code corresponds to a payment method to be transmitted by the management server is received by 65 to a transaction server for processing the near field communication transaction using the payment method.

8

- 2. A point of sale (POS) terminal for conducting a near field communication (NFC) transaction, the POS terminal comprising:
 - a point of sale terminal processor configured to transmit an NFC inductive signal and trigger an NFC interaction with a secure element which activates a secure element processor to execute an NFC application stored in a secure element memory, wherein the secure element processor, the secure element memory, and an NFC transceiver are included in the secure element permanently embedded within the body of a mobile device, the mobile device including a mobile device display, a mobile device memory, a mobile device processor, and a mobile device transceiver; and
 - a point of sale terminal NFC transceiver configured to: receive an identification code, via the NFC application, from the secure element memory during the NFC interaction:
 - send the identification code to a management server, wherein the identification code corresponds to a payment method to be transmitted by the management server to a transaction server for processing the near field communication transaction using the payment method.
- 3. A non-transitory computer readable medium for conducting a Near Field Communication (NFC) transaction at a point of sale terminal, the non-transitory computer readable medium comprising:
 - computer code for transmitting an NFC inductive signal and triggering an NFC interaction with a secure element which activates a secure element processor to execute an NFC application stored in a secure element memory by using a point of sale terminal processor, wherein the secure element processor, the secure element memory, and an NFC transceiver are included in the secure element permanently embedded within the body of a mobile device, the mobile device including a mobile device display, a mobile device memory, a mobile device processor, and a mobile device transceiver.
 - computer code for receiving an identification code from the secure element memory via the secure element application, by using a point of sale terminal NFC transceiver during the NFC interaction; and
 - computer code for sending the identification code from the point of sale terminal to a management server, wherein the identification code corresponds to a payment method to be transmitted by the management server to a transaction server for processing the near field communication transaction using the payment method corresponding to the identification code.
- **4**. The method of claim **1**, wherein the point of sale terminal is a desktop computer, a laptop computer, or a thin client, and wherein the point of sale terminal includes an NFC chip configured as an NFC scanner and an NFC reader.
- **5**. The method of claim **1**, wherein, after the near field communication transaction, a digital artifact is sent from the management server to a non-browser based mobile application stored on the mobile device for display in the non-browser based mobile application.
- **6**. The method of claim **5**, wherein the digital artifact comprises an advertisement, receipt, ticket, media, metadata and/or content.
- 7. The method of claim 5, further wherein the digital artifact is accessible by the non-browser based mobile application when the mobile device is not connected to a network.

- 8. The method of claim 1, further wherein a non-browser based mobile application executing on the mobile device implements a security tool, and wherein the security tool comprises: prompting the user to login to the mobile device, using biometrics to authenticate the user before authorizing the near field communications transaction, disabling use of the non-browser based mobile application, prompting the user to enter a payment limit PIN in response to a pending purchase exceeding a pre-determined amount, temporarily disabling the secure element, permanently disabling the secure element, deleting all cached data stored in the mobile device memory, and/or storing encrypted security codes on the mobile device, wherein disabling the secure element prevents transmission of the identification code to the point of sale terminal using the secure element application the 15 near field communication transaction, coupon redemption, and ticket redemption.
- 9. The method of claim 1, further comprising applying a coupon during the near field communication interaction between the secure element and the point of sale terminal. 20
- 10. The method of claim 1, wherein data stored on the mobile device is encrypted using a mobile operating system native to the mobile device.
- 11. The point of sale terminal of claim 2, wherein the point of sale terminal is a desktop computer, a laptop 25 computer, or a thin client, and wherein the point of sale terminal includes an NFC chip configured as an NFC scanner and an NFC reader.
- 12. The point of sale terminal of claim 2, wherein, after the near field communication transaction, a digital artifact is 30 sent from the management server to a non-browser based mobile application stored on the mobile device for display in the non-browser based mobile application.
- 13. The point of sale terminal of claim 12, wherein the digital artifact comprises an advertisement, receipt, ticket, 35 receives the transaction information including the payment media, metadata and/or content.
- 14. The point of sale terminal of claim 12 further wherein the digital artifact is accessible by the non-browser based mobile application when the mobile device is not connected
- 15. The point of sale terminal of claim 2, further wherein a non-browser based mobile application executing on the

10

mobile device implements a security tool, and wherein the security tool comprises prompting the user to login to the mobile device, using biometrics to authenticate the user before authorizing the near field communications transaction, disabling use of the non-browser based mobile application, prompting the user to enter a payment limit PIN in response to a pending purchase exceeding a pre-determined amount, temporarily disabling the secure element, permanently disabling the secure element, deleting all cached data stored in the mobile device memory, and/or storing encrypted security codes on the mobile device, wherein disabling the secure element prevents the near field communication transaction, coupon redemption, and ticket redemption.

- 16. The point of sale terminal of claim 2, further comprising applying a coupon during the near field communication interaction between the secure element and the point of sale terminal.
- 17. The point of sale terminal of claim 2, wherein data stored on the mobile device is encrypted using a mobile operating system native to the mobile device.
- 18. The method of claim 1, wherein the payment method is a credit card.
- 19. The method of claim 1, wherein the payment method is a debit card.
- 20. The method of claim 1, wherein the payment method is a cash card.
- 21. The point of sale terminal of claim 2, wherein the payment method is a credit card.
- 22. The point of sale terminal of claim 2, wherein the payment method is a debit card.
- 23. The point of sale terminal of claim 2, wherein the payment method is a cash card.
- 24. The method of claim 1, wherein the transaction server method based on information related to the identification code.
- 25. The point of sale terminal of claim 2, wherein the transaction server receives the transaction information 40 including the payment method based on information related to the identification code.