US009047601B2

(12) **United States Patent**
Xie et al.

(10) **Patent No.: US 9,047,601 B2**
(45) **Date of Patent: Jun. 2, 2015**

(54) **METHOD AND APPARATUS FOR SETTLING PAYMENTS USING MOBILE DEVICES**

(71) Applicant: **RFCyber Corporation**, Fremont, CA (US)

(72) Inventors: **Xiangzhen Xie**, Shenzhen (CN); **Liang Seng Koh**, Fremont, CA (US); **Hsin Pan**, Fremont, CA (US)

(73) Assignee: **RFCyber Corpration**, Frement, 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.

(21) Appl. No.: **13/853,937**

(22) Filed: **Mar. 29, 2013**

(65) **Prior Publication Data**

US 2014/0006194 A1 Jan. 2, 2014

Related U.S. Application Data

(63) Continuation-in-part of application No. 13/350,832, filed on Jan. 16, 2012, which is a continuation-in-part of application No. 11/534,653, filed on Sep. 24, 2006, now Pat. No. 8,118,218.

(60) Provisional application No. 61/618,802, filed on Apr. 1, 2012.

(51) **Int. Cl.**

G06G 1/12	(2006.01)
G06Q 30/00	(2012.01)
G06Q 40/00	(2012.01)
G06Q 20/32	(2012.01)
G06Q 20/34	(2012.01)
G06Q 20/36	(2012.01)
G06Q 20/40	(2012.01)
G06Q 30/06	(2012.01)
G06Q 20/10	(2012.01)

(52) **U.S. Cl.**

CPC ***G06Q 20/3227*** (2013.01); ***G06Q 20/352*** (2013.01); ***G06Q 20/3552*** (2013.01); ***G06Q 20/3672*** (2013.01); ***G06Q 20/40*** (2013.01); ***G06Q 30/0601*** (2013.01); ***G06Q 20/3278*** (2013.01); ***G06Q 20/102*** (2013.01)

(58) **Field of Classification Search**

USPC 705/21

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

7,962,369	B2 *	6/2011	Rosenberg	705/26.1
8,196,131	B1 *	6/2012	von Behren et al.	717/168
8,341,083	B1 *	12/2012	Jain	705/41
8,565,676	B2 *	10/2013	Gormley et al.	455/41.1
8,577,731	B1 *	11/2013	Cope et al.	705/17
8,601,266	B2 *	12/2013	Aabye et al.	713/168
8,646,059	B1 *	2/2014	von Behren et al.	726/9
2008/0093467	A1 *	4/2008	Narendra et al.	235/492

(Continued)

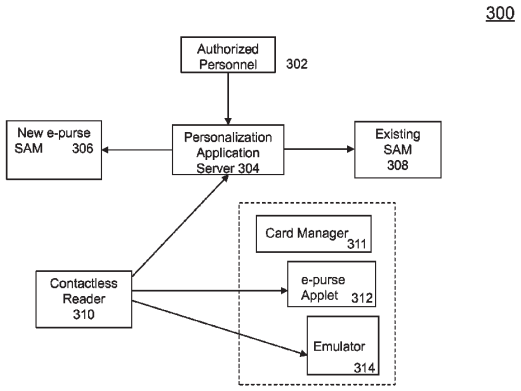
Primary Examiner — Ashford S Hayles

(74) *Attorney, Agent, or Firm* — LogicPatents, LLC; Joe Zheng

(57) **ABSTRACT**

Techniques for mobile devices configured to support settlement of charges in electronic invoices or bills are described. A mobile device embedded with a secure element generates or is loaded with an electronic invoice. When the mobile device is brought to a consumer with an NFC mobile device, the data including the electronic invoice and other information regarding the mobile device or an owner thereof is read off wirelessly into the NFC mobile device. After the user verifies the amount being charged and authorizes the payment, the NFC mobile device communicates with a payment gateway or network for payment that is configured to proceed with the payment in accordance with a chosen payment methods.

16 Claims, 22 Drawing Sheets



DOCKET ALARM
Find authenticated court documents without watermarks at docketalarm.com.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2008/0126260	A1*	5/2008	Cox et al.	705/67
2009/0289106	A1*	11/2009	Bishop et al.	235/379
2010/0211504	A1*	8/2010	Aabye et al.	705/44
2010/0213253	A1*	8/2010	Wollbrand et al.	235/380
2010/0306076	A1*	12/2010	Taveau et al.	705/26
2011/0078081	A1*	3/2011	Pirzadeh et al.	705/44
2011/0087610	A1*	4/2011	Batada et al.	705/318
2011/0112968	A1*	5/2011	Florek et al.	705/50
2011/0113473	A1*	5/2011	Corda et al.	726/3
2011/0117839	A1*	5/2011	Rhelimi	455/41.1
2011/0180610	A1*	7/2011	Narendra et al.	235/492
2011/0251952	A1*	10/2011	Kelly et al.	705/40
2012/0072309	A1*	3/2012	Hultberg et al.	705/26.41
2012/0078792	A1*	3/2012	Bacastow et al.	705/44
2012/0118952	A1*	5/2012	Norair	235/380
2012/0136786	A1*	5/2012	Romagnoli et al.	705/44
2012/0166333	A1*	6/2012	von Behren et al.	705/41
2012/0178433	A1*	7/2012	Narendra et al.	455/420
2012/0290376	A1*	11/2012	Dryer et al.	705/14.23
2012/0304255	A1*	11/2012	Carnes	726/3
2012/0317628	A1*	12/2012	Yeager	726/5
2013/0024383	A1*	1/2013	Kannappan	705/71
2013/0054413	A1*	2/2013	Brendell et al.	705/26.41
2013/0060618	A1*	3/2013	Barton et al.	705/14.23
2013/0060699	A1*	3/2013	Romagnoli et al.	705/44
2013/0097031	A1*	4/2013	Royyuru et al.	705/16
2013/0097080	A1*	4/2013	Smets et al.	705/44
2013/0103574	A1*	4/2013	Conrad et al.	705/39
2013/0124349	A1*	5/2013	Khan et al.	705/21
2013/0132219	A1*	5/2013	Liberty	705/21
2013/0138959	A1*	5/2013	Pelly et al.	713/168
2013/0140360	A1*	6/2013	Graylin	235/380
2013/0144731	A1*	6/2013	Baldwin et al.	705/17
2013/0151292	A1*	6/2013	Van Deloo et al.	705/5
2013/0151400	A1*	6/2013	Makhotin et al.	705/39
2013/0152185	A1*	6/2013	Singh et al.	726/9
2013/0160134	A1*	6/2013	Marcovecchio et al.	726/26
2013/0171929	A1*	7/2013	Adams et al.	455/41.1
2013/0173736	A1*	7/2013	Krzeminski et al.	709/213
2013/0198086	A1*	8/2013	Mardikar	705/71
2013/0200999	A1*	8/2013	Spodak et al.	340/5.65
2013/0203345	A1*	8/2013	Fisher	455/41.1
2013/0218766	A1*	8/2013	Mueller	705/42
2013/0221092	A1*	8/2013	Kushevsky et al.	235/379
2013/0226812	A1*	8/2013	Landrok et al.	705/67
2013/0246258	A1*	9/2013	Dessert	705/41
2013/0254102	A1*	9/2013	Royyuru	705/39
2013/0334318	A1*	12/2013	Wakerly et al.	235/492
2013/0346305	A1*	12/2013	Mendes	705/41
2014/0012751	A1*	1/2014	Kuhn et al.	705/41
2014/0013406	A1*	1/2014	Tremlet	726/5
2014/0095382	A1*	4/2014	Desai et al.	705/41

* cited by examiner

DOCKET ALARM
Find authenticated court documents without watermarks at docketalarm.com.

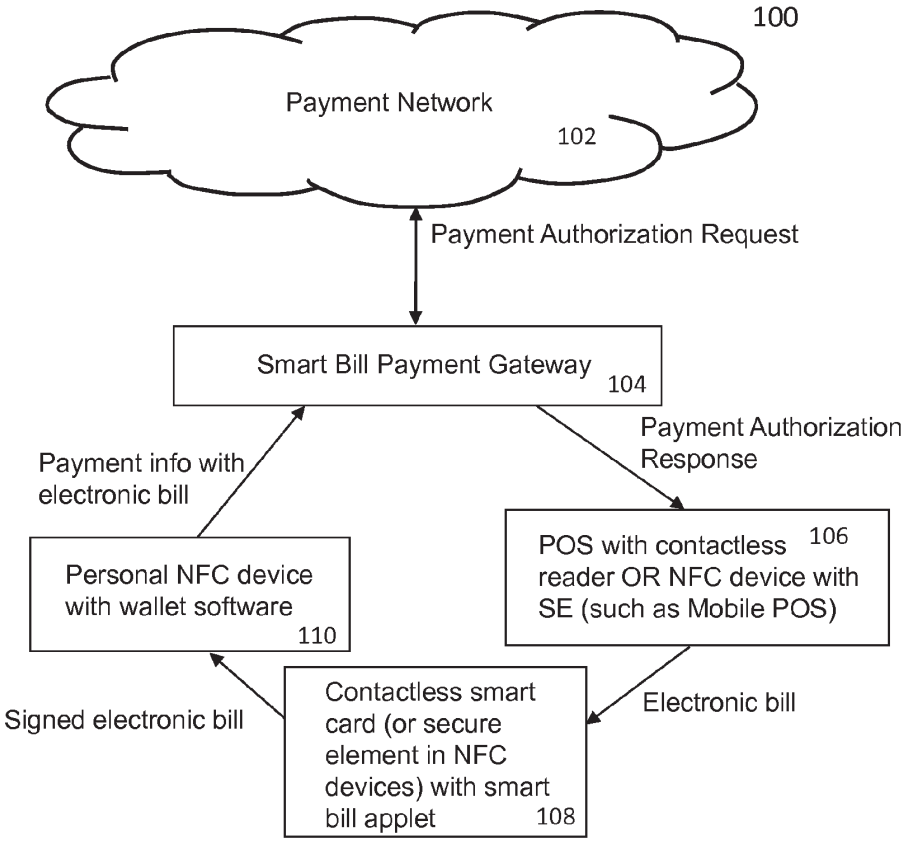


FIG. 1A

DOCKET ALARM
Find authenticated court documents without watermarks at docketalarm.com.

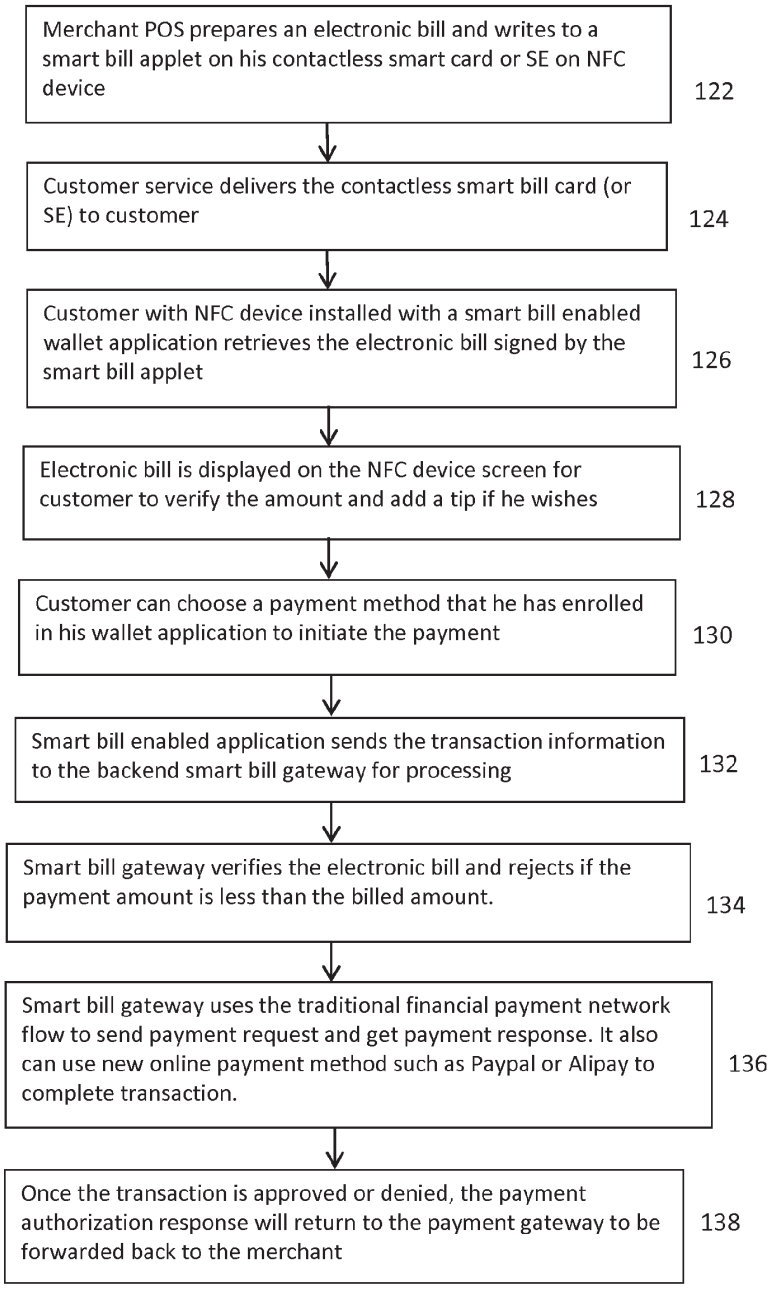


FIG. 1B

DOCKET ALARM Find authenticated court documents without watermarks at docketalarm.com.

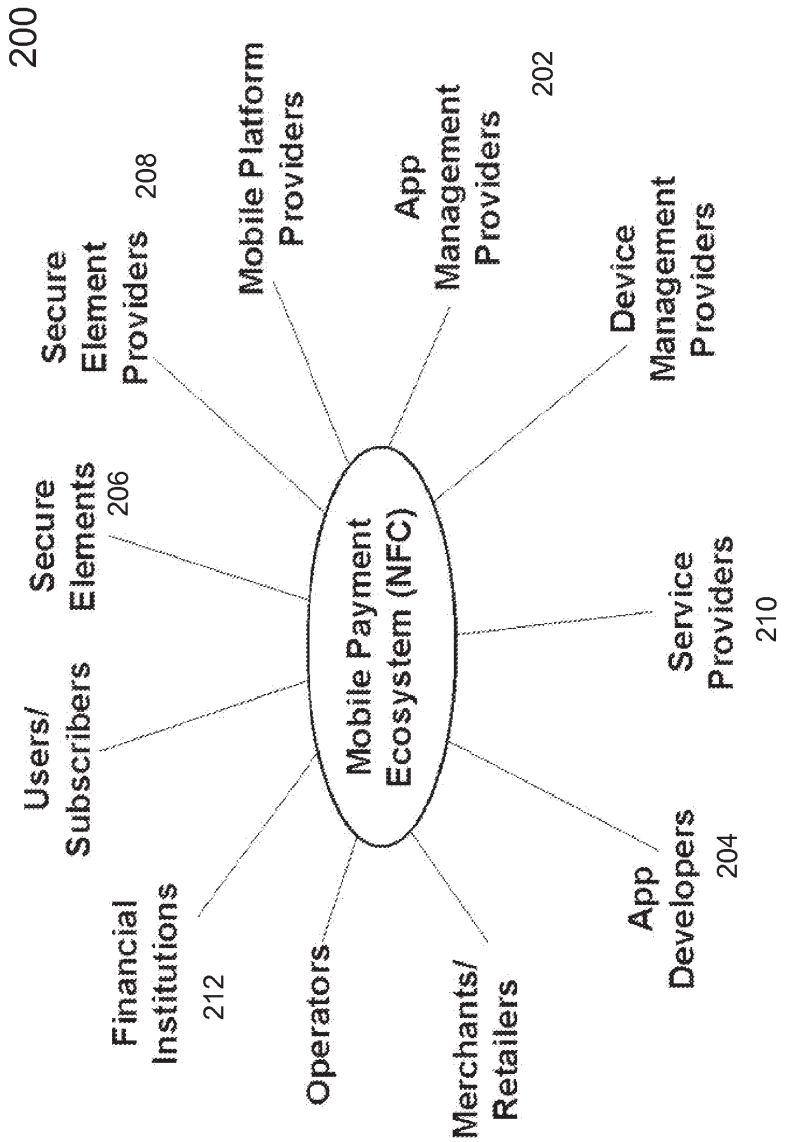


FIG. 2A

DOCKET ALARM Find authenticated court documents without watermarks at docketalarm.com.

DOCKET ALARM

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.