



US009367665B2

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

(10) **Patent No.:** **US 9,367,665 B2**
(45) **Date of Patent:** ***Jun. 14, 2016**

(54) **MANAGEMENT OF PHARMACY KITS**

(71) Applicant: **Kit Check, Inc.**, Washington, DC (US)

(72) Inventors: **Kevin William MacDonald**,
Washington, DC (US); **Timothy James**
Leo Kress-Spatz, Washington, DC (US)

(73) Assignee: **Kit Check, Inc.**, Washington, DC (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 dis-
claimer.

(21) Appl. No.: **14/818,113**

(22) Filed: **Aug. 4, 2015**

(65) **Prior Publication Data**

US 2015/0339623 A1 Nov. 26, 2015

Related U.S. Application Data

(63) Continuation of application No. 14/701,958, filed on
May 1, 2015, which is a continuation of application
No. 14/603,730, filed on Jan. 23, 2015, now Pat. No.
9,058,412, which is a continuation of application No.

(Continued)

(51) **Int. Cl.**

G06Q 50/22 (2012.01)

G06Q 50/24 (2012.01)

(Continued)

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

CPC **G06F 19/3406** (2013.01); **G06F 19/3456**
(2013.01); **G06K 7/10415** (2013.01); **G06Q**
10/087 (2013.01); **G06Q 10/0875** (2013.01);
G06Q 50/22 (2013.01); **G06Q 50/24** (2013.01);
H04W 4/008 (2013.01)

(58) **Field of Classification Search**

CPC **G06Q 50/22**; **G06Q 50/24**
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,713,485 A 2/1998 Liff et al.
5,930,145 A 7/1999 Yuyama et al.

(Continued)

FOREIGN PATENT DOCUMENTS

CA 2 722 328 10/2009
CA 2 790 220 6/2013

(Continued)

OTHER PUBLICATIONS

U.S. Appl. No. 14/818,101, filed Aug. 4, 2015, including its ongoing
prosecution history, including without limitation Office Actions,
Amendments, Remarks, and any other potentially relevant docu-
ments, MacDonald et al.

(Continued)

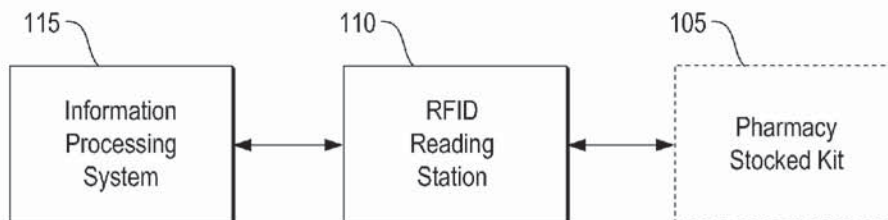
Primary Examiner — Eliza Lam

(74) *Attorney, Agent, or Firm* — Knobbe Martens Olson &
Bear, LLP

(57) **ABSTRACT**

A system for managing pharmacy kits comprises a reading
station configured to read tag information from a plurality of
radio frequency identification (RFID) tags associated with a
pharmacy kit, and an information processing system opera-
tively connected to the reading station and configured to
receive the tag information from the reading station and deter-
mine a status of the pharmacy kit based on the tag informa-
tion, a plurality of stored templates defining contents to be
included in each of a plurality of pharmacy kits, and a plural-
ity of kit records indicating the current contents of a plurality
of pharmacy kits.

30 Claims, 22 Drawing Sheets



Related U.S. Application Data

- 13/554,342, filed on Jul. 20, 2012, now Pat. No. 8,990,099.
- (60) Provisional application No. 61/514,231, filed on Aug. 2, 2011.
- (51) **Int. Cl.**
G06F 19/00 (2011.01)
G06Q 10/08 (2012.01)
G06K 7/10 (2006.01)
H04W 4/00 (2009.01)

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,986,662 A 11/1999 Argiro et al.
 6,112,502 A 9/2000 Frederick et al.
 6,249,299 B1 6/2001 Tainer
 6,275,157 B1 8/2001 Mays et al.
 6,294,999 B1 9/2001 Yarin et al.
 6,574,166 B2 6/2003 Niemiec
 6,632,619 B1 10/2003 Harrison et al.
 6,771,369 B2 8/2004 Rzasas et al.
 6,825,864 B2 11/2004 Botten et al.
 6,851,615 B2 2/2005 Jones
 6,877,658 B2 4/2005 Raistrick et al.
 6,900,021 B1 5/2005 Harrison et al.
 6,933,849 B2 8/2005 Sawyer
 6,935,560 B2 8/2005 Andreasson et al.
 6,952,681 B2 10/2005 McQuade et al.
 6,985,870 B2 1/2006 Martucci et al.
 6,994,249 B2 2/2006 Peterka et al.
 7,061,831 B2 6/2006 De La Huerga
 7,116,343 B2 10/2006 Botten et al.
 7,118,029 B2 10/2006 Nycz et al.
 7,140,542 B2 11/2006 Andreasson et al.
 7,146,247 B2 12/2006 Kirsch et al.
 7,151,456 B2 12/2006 Godfrey
 7,158,030 B2 1/2007 Chung
 7,165,077 B2 1/2007 Kalies
 7,175,081 B2 2/2007 Andreasson et al.
 7,177,721 B2 2/2007 Kirsch et al.
 7,182,256 B2 2/2007 Andreasson et al.
 7,212,100 B2 5/2007 Terenna
 7,227,469 B2 6/2007 Varner et al.
 7,232,066 B2 6/2007 Andreasson et al.
 7,253,736 B2 8/2007 Tethrake et al.
 7,256,699 B2 8/2007 Tethrake et al.
 7,264,323 B2 9/2007 Tainer et al.
 7,268,684 B2 9/2007 Tethrake et al.
 7,275,645 B2 10/2007 Mallett et al.
 7,299,981 B2 11/2007 Hickle et al.
 7,318,529 B2 1/2008 Mallett et al.
 7,341,147 B2 3/2008 Mallett et al.
 7,354,884 B2 4/2008 Hada et al.
 7,362,228 B2 4/2008 Nycz et al.
 7,375,737 B2 5/2008 Botten et al.
 7,394,383 B2 7/2008 Hager et al.
 7,440,818 B2 10/2008 Handfield et al.
 7,446,747 B2 11/2008 Youngblood et al.
 7,454,880 B1 11/2008 Austin et al.
 7,486,188 B2 2/2009 Van Alstyne
 7,492,257 B2 2/2009 Tethrake et al.
 7,492,261 B2 2/2009 Cambre et al.
 7,504,954 B2 3/2009 Spaeder
 7,518,502 B2 4/2009 Austin et al.
 7,551,089 B2 6/2009 Sawyer
 7,559,483 B2 7/2009 Hickle et al.
 7,564,364 B2 7/2009 Zweig
 7,639,136 B1 12/2009 Wass et al.
 7,644,016 B2 1/2010 Nycz et al.
 7,672,872 B2 3/2010 Shanton

7,712,670 B2 5/2010 Sauerwein, Jr. et al.
 7,715,277 B2 5/2010 De La Huerga
 7,729,597 B2 6/2010 Wright et al.
 7,734,157 B2 6/2010 Wright et al.
 7,747,477 B1 6/2010 Louie et al.
 7,752,085 B2 7/2010 Monroe
 7,772,964 B2 8/2010 Tethrake et al.
 7,775,056 B2 8/2010 Lowenstein
 7,783,163 B2 8/2010 Wright et al.
 7,783,174 B2 8/2010 Wright et al.
 7,801,422 B2 9/2010 Wright et al.
 7,815,117 B2 10/2010 Tuschel et al.
 7,834,765 B2 11/2010 Sawyer
 7,834,766 B2 11/2010 Sawyer
 7,837,093 B1 11/2010 Leu et al.
 7,837,107 B1 11/2010 Leu et al.
 7,858,841 B2 12/2010 Krautkramer et al.
 7,860,730 B1 12/2010 Goodall et al.
 7,868,754 B2 1/2011 Salvat, Jr.
 7,893,876 B2 2/2011 Brown et al.
 7,908,030 B2 3/2011 Handfield et al.
 7,918,830 B2 4/2011 Langan et al.
 7,933,033 B2 4/2011 Ohishi et al.
 7,976,508 B2 7/2011 Hoag
 7,985,711 B2 7/2011 Tohmatsu et al.
 7,990,272 B2 8/2011 Wass et al.
 7,996,286 B2 8/2011 Kreiner et al.
 8,002,174 B2 8/2011 Coyne, III et al.
 8,006,903 B2 8/2011 Braun et al.
 8,009,913 B2 8/2011 Greyshock
 8,031,347 B2 10/2011 Edwards et al.
 8,042,738 B2 10/2011 Cloix
 8,049,627 B1 11/2011 Addante
 8,063,925 B2 11/2011 Tainer et al.
 8,065,858 B2 11/2011 Leu et al.
 8,072,635 B2 12/2011 Roberts et al.
 8,082,192 B2 12/2011 Nycz et al.
 8,099,339 B1 1/2012 Pinsonneault et al.
 8,108,068 B1 1/2012 Boucher et al.
 8,111,159 B2 2/2012 Andreasson et al.
 8,112,175 B2 2/2012 Handfield et al.
 8,131,397 B2 3/2012 Vahlberg et al.
 8,154,390 B2 4/2012 Heath et al.
 8,174,392 B1 5/2012 Saghbini et al.
 8,186,587 B2 5/2012 Zmood et al.
 8,212,677 B2 7/2012 Ferguson
 8,219,413 B2 7/2012 Martinez et al.
 8,224,483 B1 7/2012 Ansari et al.
 8,231,749 B2 7/2012 Dent et al.
 8,258,961 B2 9/2012 Phillips et al.
 8,261,939 B2 9/2012 Knoth
 8,279,069 B2 10/2012 Sawyer
 8,283,287 B2 10/2012 Aihara et al.
 8,284,059 B2 10/2012 Ross
 8,285,083 B2 10/2012 Canessa et al.
 8,285,607 B2 10/2012 Danilewitz
 8,286,222 B2 10/2012 Silverbrook et al.
 8,292,173 B2 10/2012 Yturralde et al.
 8,292,186 B2 10/2012 Deloche et al.
 8,296,950 B2 10/2012 Colbrunn et al.
 8,328,082 B1 12/2012 Bochenko et al.
 8,339,649 B2 12/2012 Ohishi et al.
 8,341,041 B2 12/2012 Hull
 8,346,632 B2 1/2013 Saghbini
 8,355,753 B2 1/2013 Bochenko et al.
 8,355,962 B2 1/2013 Delaney et al.
 8,359,338 B2 1/2013 Butterfield et al.
 8,376,228 B2 2/2013 Devet et al.
 8,384,545 B2 2/2013 Hussain et al.
 8,385,972 B2 2/2013 Bochenko et al.
 8,394,053 B2 3/2013 Bochenko et al.
 8,403,212 B2 3/2013 van Esch
 8,403,224 B2 3/2013 Fedorko et al.
 8,405,508 B2 3/2013 Burke
 8,461,076 B2 6/2013 Okada et al.
 8,483,550 B2 7/2013 Wright et al.
 8,509,604 B2 8/2013 Wright et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

8,530,379	B2	9/2013	Shimizu et al.	2007/0229268	A1*	10/2007	Swan et al. 340/572.1
8,564,416	B2	10/2013	Steven et al.	2008/0004908	A1	1/2008	Oh et al.
8,565,552	B2	10/2013	Sommer et al.	2008/0012687	A1	1/2008	Rubinstein
8,582,171	B2	11/2013	Srnka et al.	2008/0045930	A1	2/2008	Makin et al.
8,593,278	B2	11/2013	Churbock et al.	2008/0046295	A1	2/2008	Albrecht
8,593,678	B2	11/2013	Ohishi et al.	2008/0094214	A1	4/2008	Azevedo et al.
D694,817	S	12/2013	Adam et al.	2008/0122878	A1	5/2008	Keefe et al.
8,606,596	B1	12/2013	Bochenko et al.	2008/0128482	A1	6/2008	Chen et al.
8,636,202	B2	1/2014	Keefe et al.	2008/0129496	A1	6/2008	Koblasz
8,639,525	B2	1/2014	Levine et al.	2008/0150722	A1	6/2008	Jackson
8,686,859	B2	4/2014	Hussain et al.	2008/0172253	A1	7/2008	Chung et al.
8,699,054	B2	4/2014	Edwards et al.	2008/0191013	A1	8/2008	Liberatore
8,702,674	B2	4/2014	Bochenko	2008/0218307	A1	9/2008	Schoettle
8,749,356	B2	6/2014	Hussain et al.	2008/0243088	A1	10/2008	Evans
8,755,056	B2	6/2014	Edwards et al.	2008/0270178	A1	10/2008	McRae et al.
8,825,680	B2	9/2014	Burke et al.	2008/0296373	A1	12/2008	Smood et al.
8,893,970	B2	11/2014	Keefe et al.	2008/0297356	A1	12/2008	Oberle
8,922,435	B2	12/2014	Fontecchio et al.	2008/0306772	A1	12/2008	Shahrokh
8,935,280	B2	1/2015	Bauman et al.	2008/0316045	A1	12/2008	Sriharto et al.
8,945,066	B2	2/2015	Bochenko et al.	2009/0002173	A1	1/2009	Bergsten et al.
8,948,478	B2	2/2015	Keefe et al.	2009/0020442	A1	1/2009	Dietrich et al.
8,990,099	B2	3/2015	MacDonald et al.	2009/0058653	A1	3/2009	Geissler et al.
9,037,479	B1	5/2015	MacDonald et al.	2009/0144087	A1	6/2009	Kelsch et al.
9,058,412	B2	6/2015	MacDonald et al.	2009/0153290	A1	6/2009	Bierach
9,058,413	B2	6/2015	MacDonald et al.	2009/0164042	A1	6/2009	Handfield et al.
2002/0026330	A1	2/2002	Klein	2009/0194987	A1	8/2009	Christie et al.
2002/0087360	A1	7/2002	Pettit	2009/0231138	A1	9/2009	Cheung et al.
2002/0087362	A1	7/2002	Cobb et al.	2009/0267740	A1	10/2009	Pizzuto et al.
2002/0087554	A1	7/2002	Seelinger	2009/0267772	A1	10/2009	Dehnadi
2003/0055685	A1	3/2003	Cobb et al.	2009/0277815	A1	11/2009	Kohl
2003/0074223	A1	4/2003	Hickle et al.	2009/0294521	A1	12/2009	De La Huerga
2003/0160698	A1	8/2003	Andreasson et al.	2010/0022953	A1	1/2010	Bochenko et al.
2003/0216974	A1	11/2003	Browne	2010/0022987	A1	1/2010	Bochenko
2004/0008123	A1	1/2004	Carrender et al.	2010/0036310	A1	2/2010	Hillman
2004/0032330	A1	2/2004	Hoffman	2010/0036678	A1	2/2010	Bray
2004/0051368	A1	3/2004	Caputo et al.	2010/0036755	A1	2/2010	Saghbini
2004/0057609	A1	3/2004	Weinberg	2010/0042439	A1	2/2010	Martinez et al.
2004/0081669	A1	4/2004	Greeven et al.	2010/0079337	A1	4/2010	Hsu et al.
2004/0178071	A1	9/2004	Harrison et al.	2010/0098425	A1	4/2010	Kewitsch
2004/0215486	A1	10/2004	Braverman	2010/0108761	A1	5/2010	Nycz et al.
2004/0225528	A1	11/2004	Brock	2010/0185458	A1	7/2010	Calderwood et al.
2005/0014849	A1	1/2005	Pettit et al.	2010/0204659	A1	8/2010	Bochenko
2005/0060171	A1	3/2005	Molnar	2010/0217621	A1	8/2010	Schoenberg et al.
2005/0062603	A1	3/2005	Fuerst et al.	2010/0219097	A1	9/2010	Ramasubramanian et al.
2005/0108044	A1	5/2005	Koster	2010/0238039	A1	9/2010	Tethrake et al.
2005/0125097	A1	6/2005	Chudy et al.	2010/0268548	A1	10/2010	Garrett et al.
2005/0127176	A1	6/2005	Dickinson	2010/0275625	A1	11/2010	Lowenstein
2005/0149378	A1	7/2005	Cyr et al.	2010/0299158	A1	11/2010	Siegel
2005/0184151	A1	8/2005	DiMaggio et al.	2010/0328474	A1	12/2010	Hsieh
2005/0283259	A1	12/2005	Wolpow	2010/0332246	A1	12/2010	Fedorko et al.
2005/0285732	A1	12/2005	Sengupta et al.	2011/0006879	A1	1/2011	Bartos
2005/0285746	A1	12/2005	Sengupta et al.	2011/0063091	A1	3/2011	Kang
2006/0006999	A1	1/2006	Walczyk et al.	2011/0068922	A1	3/2011	Ross
2006/0043177	A1	3/2006	Nycz et al.	2011/0115612	A1	5/2011	Kulinets et al.
2006/0043179	A1	3/2006	Nycz et al.	2011/0125315	A1	5/2011	Handfield et al.
2006/0065726	A1	3/2006	Andreasson et al.	2011/0131056	A1	6/2011	Chudy et al.
2006/0109105	A1	5/2006	Varner et al.	2011/0139871	A1	6/2011	Yturalde et al.
2006/0132311	A1	6/2006	Kruerst et al.	2011/0161112	A1	6/2011	Keefe et al.
2006/0145871	A1	7/2006	Donati et al.	2011/0163871	A1	7/2011	Einav et al.
2006/0152338	A1	7/2006	Hsu	2011/0166878	A1	7/2011	Louie et al.
2006/0152364	A1	7/2006	Walton	2011/0184751	A1	7/2011	Holmes
2006/0152367	A1	7/2006	Narayanawamy	2011/0225100	A1	9/2011	Sangal et al.
2006/0267731	A1	11/2006	Chen	2011/0227722	A1	9/2011	Salvat, Jr.
2007/0001809	A1	1/2007	Kodukula et al.	2011/0240729	A1	10/2011	Schuck
2007/0008399	A1	1/2007	Botten et al.	2011/0257991	A1	10/2011	Shukla
2007/0023512	A1*	2/2007	Miller et al. 235/385	2011/0270441	A1	11/2011	Handfield et al.
2007/0023513	A1	2/2007	Andreasson et al.	2011/0291809	A1	12/2011	Niemiec et al.
2007/0074722	A1	4/2007	Giroux et al.	2011/0301446	A1	12/2011	Kamen
2007/0114279	A1	5/2007	Lessing et al.	2011/0313395	A1	12/2011	Krulevitch et al.
2007/0150382	A1	6/2007	Danilewitz	2012/0037266	A1	2/2012	Bochenko
2007/0187475	A1	8/2007	MacLeod	2012/0041778	A1	2/2012	Kraft
2007/0188306	A1	8/2007	Tethrake et al.	2012/0044054	A1	2/2012	Hussain et al.
2007/0200702	A1	8/2007	Chung	2012/0061463	A1	3/2012	Burke
				2012/0089411	A1	4/2012	Srnka et al.
				2012/0089418	A1	4/2012	Kamath et al.
				2012/0116798	A1	5/2012	Heath et al.
				2012/0125994	A1	5/2012	Heath et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

2012/0185951	A1	7/2012	Bauman et al.
2012/0209619	A1	8/2012	Knotts et al.
2012/0240067	A1	9/2012	Bauman et al.
2012/0273087	A1	11/2012	Einy et al.
2012/0278096	A1	11/2012	Holness
2012/0278228	A1	11/2012	Rubinstein
2012/0323208	A1	12/2012	Bochenko et al.
2012/0325330	A1	12/2012	Prince et al.
2013/0018356	A1	1/2013	Prince et al.
2013/0038452	A1	2/2013	Sawyer
2013/0041784	A1	2/2013	Danilewitz
2013/0092727	A1	4/2013	Edwards et al.
2013/0105568	A1	5/2013	Jablonski et al.
2013/0151005	A1	6/2013	Gerold et al.
2013/0191149	A1	7/2013	Kolberg et al.
2013/0221082	A1	8/2013	Botten
2013/0225945	A1	8/2013	Prince et al.
2013/0327822	A1	12/2013	Keefe et al.
2014/0060729	A1	3/2014	Srnka et al.
2014/0066880	A1	3/2014	Prince et al.
2014/0117081	A1	5/2014	Jablonski et al.
2014/0136229	A1	5/2014	Levine et al.
2014/0142975	A1	5/2014	Keefe et al.
2014/0184390	A1	7/2014	Elizondo, II
2014/0184391	A1	7/2014	Elizondo, II
2014/0197954	A1	7/2014	Caputo et al.
2014/0210596	A1	7/2014	Hussain et al.
2014/0262919	A1	9/2014	Hussain et al.
2014/0263614	A1	9/2014	Keefe et al.
2014/0276213	A1	9/2014	Bochenko
2014/0282197	A1	9/2014	Keefe et al.
2014/0291397	A1	10/2014	Caputo et al.
2014/0367080	A1	12/2014	Hussain et al.
2014/0372145	A1	12/2014	MacDonald et al.
2015/0058182	A1	2/2015	Kress-Spatz et al.
2015/0161558	A1	6/2015	Gitchell et al.
2015/0235005	A1	8/2015	MacDonald et al.
2015/0339622	A1	11/2015	MacDonald et al.

FOREIGN PATENT DOCUMENTS

CN	102791310	B	12/2014
IN	2012/04914	P4	10/2013
WO	WO 02/095675		11/2002
WO	WO 2006/026246		3/2006
WO	WO 2006/135830		12/2006
WO	WO 2010/074781		7/2010
WO	WO 2011/115676		9/2011
WO	WO 2011/150013		12/2011
WO	WO 2013/082423		6/2013
WO	WO 2013/116873		8/2013
WO	WO 2013/134256		9/2013
WO	WO 2014/159928		10/2014
WO	WO 2014/189834		11/2014

OTHER PUBLICATIONS

U.S. Appl. No. 14/876,533, filed Oct. 6, 2015, including its ongoing prosecution history, including without limitation Office Actions, Amendments, Remarks, and any other potentially relevant documents, Gitchell et al.

Barlas, Stephen, "Pharmacy Product Tracing Likely to Go National—Costs to Pharmacies Worrisome," *Pharmacy & Therapeutics*, Jan. 2009, vol. 34 No. 1, p. 14.

Belson, D., "Storage, Distribution, and Dispensing of Medical Supplies," CREATE Interim Report Under FEMA Grant EMW-2004-GR-0112, Apr. 21, 2005, pp. 1-36.

çakici et al., "Using RFID for the management of pharmaceutical inventory-system optimization and shrinkage control," *Decision Support Systems*, 2011, pp. 842-852.

CPG Sec. 400.210, Radiofrequency Identification Feasibility Studies and Pilot Programs for Drugs Nov. 2004 Compliance Policy Guide available at: <http://www.fda.gov/ICECI/ComplianceManuals/CompliancePolicyGuidanceManual/ucm074357.htm>.

Crash Cart Inventory Checklist, *Outpatient Surgery Magazine*, Oct. 2004, "Outpatient Surgery", available at: http://www.outpatientsurgery.net/resources/forms/2004/pdf/OutpatientSurgeryMagazine_0410_crashCart.pdf, in 1 page.

Curtin et al., "Making the 'MOST' out of RFID: a research agenda for the study of the adoption, usage and impact of RFID," *Information Technology Management*, Apr. 2007, pp. 87-110.

Gonzalez, Stephanie, "Health Maintenance System (HMS) Hardware Research, Design, and Collaboration," NASA USRP—Internship Final Report, 2010, pp. 1-20.

Harrop et al., "RFID for Healthcare and Pharmaceuticals, 2008-2018," *Securing Pharma*, May 2008, pp. 1-12.

Houliston, Bryan, "Integrating RFID Technology into a Drug Administration System," *Bulletin of Applied Computing and Information Technology*, vol. 3, No. 1, May 2005, pp. 8. Retrieved Sep. 26, 2013 from http://citrenz.ac.nz/bacit/0301/2005Houliston_RFID.htm.

Jorgensen et al., "Executable Use Cases: Requirements for a Pervasive Health Care System," *IEEE Software*, Mar./Apr. 2004, pp. 34-41.

Lai et al., "Enhancing Medication Safety and Reduce Adverse Drug Events on Inpatient Medication Administration using RFID," *WSEAS Transactions on Communications*, Oct. 2008, vol. 7, No. 10, pp. 1045-1054.

Lampe et al., "The Smart Box Application Model," *Advances in Pervasive Computing*, 2004, pp. 1-6.

"McKesson's Announces New Touch-Screen Driven Medication Dispensing Solution", *Business Wire*, Jun. 15, 2009, pp. 2. Available at: http://www.businesswire.com/news/home/20090615005349/en/McKesson-Announces-Touch-Screen-Driven-Medication-Dispensing-Solution#.VR7quPnF_10.

"Medical Packaging Inc. Announces Clear Stem Flag Label System for Ampoules, Vials, and Syringes" Feb. 1, 2006 available at: http://www.medpak.com/v1/news/20060201_CSFLAG.pdf, in 1 page.

O'Driscoll et al., "RFID: An Ideal Technology for Ubiquitous Computing?" *Dublin Institute of Technology School of Electronic and Communications Conference Papers*, Jan. 1, 2008, pp. 1-17.

Pappu, Ph.D. et al., "RFiD in Hospitals: Issues and Solutions" Consortium for the Accelerated Deployment of RFID in Distribution, Sep. 2004, pp. 1-12.

Tzeng et al., "Evaluating the Business Value of RFID: Evidence from Five Case Studies," *International Journal of Production Economics*, 2008, vol. 112, pp. 601-613.

Wang et al., "Applying RFID Technology to Develop a Distant Medical Care Service Platform," *International Journal of Electronic Business Management*, 2010, vol. 8, No. 2, pp. 161-170.

O'Connor, To Keep Drugs from Expiring, *Hospital Tests Intelliguard System*, *RFID Journal*, Jan. 12, 2011, 3 pgs.

* cited by examiner

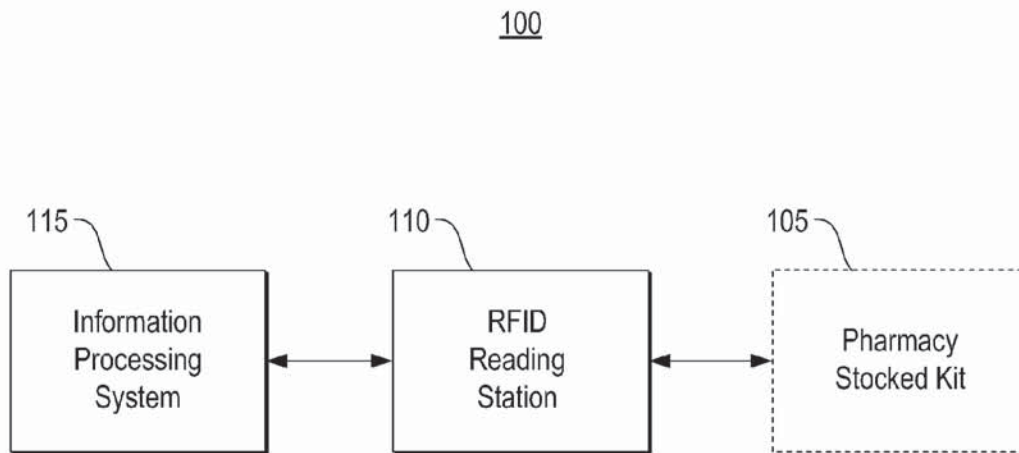


Fig. 1

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.