



US009398339B2

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

(10) **Patent No.:** **US 9,398,339 B2**  
(45) **Date of Patent:** **Jul. 19, 2016**

(54) **IMAGE DISPLAY APPARATUS AND METHOD FOR OPERATING THE SAME**

(75) Inventors: **Haneul Lee**, Seoul (KR); **Kwangsoo Choi**, Seoul (KR); **Jihe Suk**, Seoul (KR); **Hyojung Oh**, Seoul (KR); **Jimin Heo**, Seoul (KR); **Myongwon Suh**, Seoul (KR)

(73) Assignee: **LG Electronics Inc.**, Seoul (KR)

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 444 days.

(21) Appl. No.: **12/970,120**

(22) Filed: **Dec. 16, 2010**

(65) **Prior Publication Data**

US 2012/0054803 A1 Mar. 1, 2012

**Related U.S. Application Data**

(60) Provisional application No. 61/379,363, filed on Sep. 1, 2010, provisional application No. 61/379,367, filed on Sep. 1, 2010, provisional application No. 61/379,372, filed on Sep. 1, 2010.

(30) **Foreign Application Priority Data**

Sep. 2, 2010 (KR) ..... 10-2010-0086149  
Sep. 2, 2010 (KR) ..... 10-2010-0086152  
Sep. 2, 2010 (KR) ..... 10-2010-0086153

(51) **Int. Cl.**  
**H04N 21/431** (2011.01)  
**H04N 21/81** (2011.01)  
(Continued)

(52) **U.S. Cl.**  
CPC ..... **H04N 21/4755** (2013.01); **H04N 21/4312** (2013.01); **H04N 21/4316** (2013.01); **H04N 21/47** (2013.01); **H04N 21/4782** (2013.01);  
(Continued)

(58) **Field of Classification Search**  
CPC ..... H04N 21/8173; H04N 5/44591; H04N 21/47; H04N 21/4316; H04N 21/4312; H04N 21/44591; G06F 3/04886  
USPC ..... 725/34-47, 50-52, 56, 61  
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,900,868 A \* 5/1999 Duhault et al. .... 725/42  
6,141,003 A 10/2000 Chor et al. .... 345/327  
(Continued)

FOREIGN PATENT DOCUMENTS

CN 101065960 A 10/2007  
KR 10-2004-0066222 A 7/2004  
KR 10-2010-0050067 A 5/2010

OTHER PUBLICATIONS

PCT International Search Report dated Sep. 15, 2011 issued in Application No. PCT/KR2010/009046.  
(Continued)

*Primary Examiner* — Benjamin R Bruckart

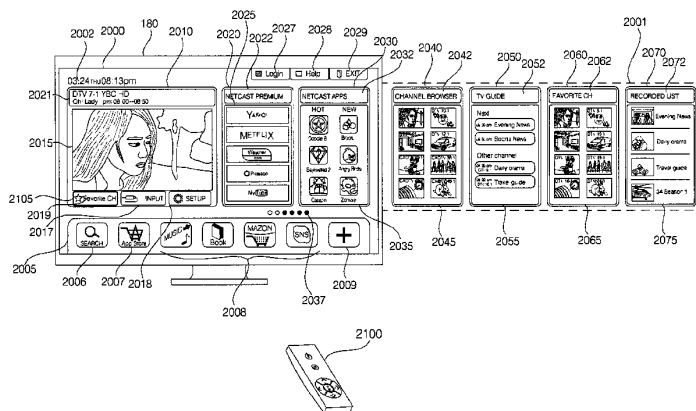
*Assistant Examiner* — Jason Thomas

(74) *Attorney, Agent, or Firm* — KED & Associates LLP

(57) **ABSTRACT**

An image display apparatus for receiving and processing a broadcast signal and a method for operating the same are disclosed. The method includes displaying a home screen including a plurality of card objects, displaying a broadcast image and a favorite channel object representing favorite channels in a broadcast card object representing a broadcast image among the plurality of card objects, and displaying a favorite channel list including favorite channel items on the display, upon selection of the favorite channel object.

**16 Claims, 69 Drawing Sheets**



(51)	<p><b>Int. Cl.</b>  <i>H04N 21/47</i> (2011.01)  <i>H04N 21/475</i> (2011.01)  <i>H04N 21/478</i> (2011.01)  <i>H04N 21/4782</i> (2011.01)  <i>H04N 21/4786</i> (2011.01)  <i>H04N 21/482</i> (2011.01)</p>	<p>2005/0283800 A1* 12/2005 Ellis et al. .... 725/40                  2006/0184966 A1* 8/2006 Hunleth et al. .... 725/39                  2006/0236342 A1 10/2006 Kunkel et al. .... 725/52                  2007/0157248 A1 7/2007 Ellis ..... 725/47                  2007/0288959 A1 12/2007 Istvan et al. .... 725/39                  2008/0046933 A1 2/2008 Kim et al. .... 725/61                  2008/0092170 A1* 4/2008 Shannon et al. .... 725/46                  2008/0092173 A1 4/2008 Shannon et al. .... 725/47                  2008/0104635 A1* 5/2008 Fontquerni Xandri ..... 725/38                  2009/0100361 A1 4/2009 Abello et al.                  2009/0172739 A1* 7/2009 Blackketter et al. .... 725/51                  2010/0017825 A1 1/2010 Shin et al. .... 725/47                  2010/0192179 A1 7/2010 Ellis et al. .... 725/40                  2010/0229197 A1* 9/2010 Yi ..... H04N 21/235                  725/40                  2010/0257559 A1* 10/2010 Friedlander et al. .... 725/40                  2010/0275227 A1* 10/2010 Lee et al. .... 725/37                  2011/0016485 A1* 1/2011 Hubner et al. .... 725/30                  2011/0283320 A1* 11/2011 Levin ..... H04N 21/466                  725/40                  2012/0047533 A1* 2/2012 Westberg ..... 725/46</p>																																																				
(52)	<p><b>U.S. Cl.</b>                  CPC ..... <i>H04N 21/4786</i> (2013.01); <i>H04N 21/47815</i>                  (2013.01); <i>H04N 21/482</i> (2013.01); <i>H04N</i>  <i>21/4826</i> (2013.01); <i>H04N 21/8173</i> (2013.01)</p>																																																					
(56)	<p><b>References Cited</b></p> <p>U.S. PATENT DOCUMENTS</p> <table border="0"> <tr> <td>6,348,932 B1</td> <td>2/2002</td> <td>Nishikawa et al. ....</td> <td>345/719</td> </tr> <tr> <td>6,505,348 B1</td> <td>1/2003</td> <td>Knowles et al. ....</td> <td>725/49</td> </tr> <tr> <td>6,526,577 B1</td> <td>2/2003</td> <td>Knudson et al. ....</td> <td>725/40</td> </tr> <tr> <td>6,859,937 B1</td> <td>2/2005</td> <td>Narayan et al. ....</td> <td>725/37</td> </tr> <tr> <td>6,934,917 B2*</td> <td>8/2005</td> <td>Lin ..... 715/811</td> <td></td> </tr> <tr> <td>7,454,777 B1</td> <td>11/2008</td> <td>Nishikawa et al. ....</td> <td>725/151</td> </tr> <tr> <td>2002/0175953 A1*</td> <td>11/2002</td> <td>Lin ..... 345/811</td> <td></td> </tr> <tr> <td>2002/0196268 A1</td> <td>12/2002</td> <td>Wolff et al. .... 345/718</td> <td></td> </tr> <tr> <td>2003/0149675 A1*</td> <td>8/2003</td> <td>Ansari et al. .... 706/2</td> <td></td> </tr> <tr> <td>2004/0078814 A1*</td> <td>4/2004</td> <td>Allen ..... 725/47</td> <td></td> </tr> <tr> <td>2005/0144646 A1*</td> <td>6/2005</td> <td>Lecrom et al. .... 725/100</td> <td></td> </tr> <tr> <td>2005/0166230 A1</td> <td>7/2005</td> <td>Gaydou et al. .... 725/41</td> <td></td> </tr> <tr> <td>2005/0235319 A1</td> <td>10/2005</td> <td>Carpenter et al. .... 725/52</td> <td></td> </tr> </table>		6,348,932 B1	2/2002	Nishikawa et al. ....	345/719	6,505,348 B1	1/2003	Knowles et al. ....	725/49	6,526,577 B1	2/2003	Knudson et al. ....	725/40	6,859,937 B1	2/2005	Narayan et al. ....	725/37	6,934,917 B2*	8/2005	Lin ..... 715/811		7,454,777 B1	11/2008	Nishikawa et al. ....	725/151	2002/0175953 A1*	11/2002	Lin ..... 345/811		2002/0196268 A1	12/2002	Wolff et al. .... 345/718		2003/0149675 A1*	8/2003	Ansari et al. .... 706/2		2004/0078814 A1*	4/2004	Allen ..... 725/47		2005/0144646 A1*	6/2005	Lecrom et al. .... 725/100		2005/0166230 A1	7/2005	Gaydou et al. .... 725/41		2005/0235319 A1	10/2005	Carpenter et al. .... 725/52	
6,348,932 B1	2/2002	Nishikawa et al. ....	345/719																																																			
6,505,348 B1	1/2003	Knowles et al. ....	725/49																																																			
6,526,577 B1	2/2003	Knudson et al. ....	725/40																																																			
6,859,937 B1	2/2005	Narayan et al. ....	725/37																																																			
6,934,917 B2*	8/2005	Lin ..... 715/811																																																				
7,454,777 B1	11/2008	Nishikawa et al. ....	725/151																																																			
2002/0175953 A1*	11/2002	Lin ..... 345/811																																																				
2002/0196268 A1	12/2002	Wolff et al. .... 345/718																																																				
2003/0149675 A1*	8/2003	Ansari et al. .... 706/2																																																				
2004/0078814 A1*	4/2004	Allen ..... 725/47																																																				
2005/0144646 A1*	6/2005	Lecrom et al. .... 725/100																																																				
2005/0166230 A1	7/2005	Gaydou et al. .... 725/41																																																				
2005/0235319 A1	10/2005	Carpenter et al. .... 725/52																																																				
	<p>OTHER PUBLICATIONS</p> <p>European Search Report dated May 23, 2014 issued in foreign application No. 10856770.2.                  Chinese Office Action issued in Application No. 201080068905.2 dated Apr. 3, 2015.                  Chinese Office Action for Application 201080068905.2 dated Dec. 16, 2015 (full English Translation and full Chinese text).</p> <p>* cited by examiner</p>																																																					

FIG. 1

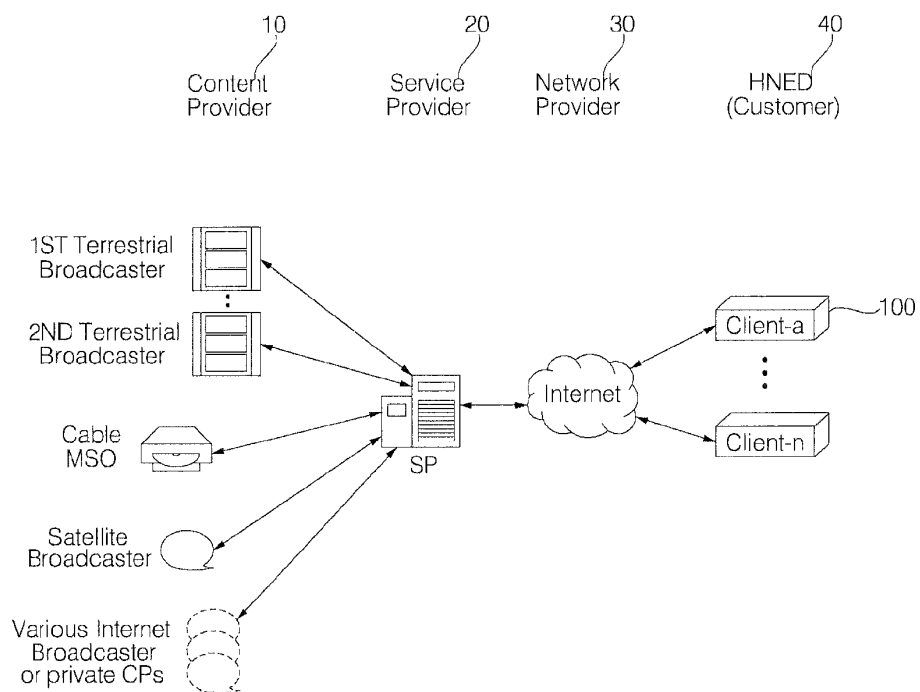


FIG. 2

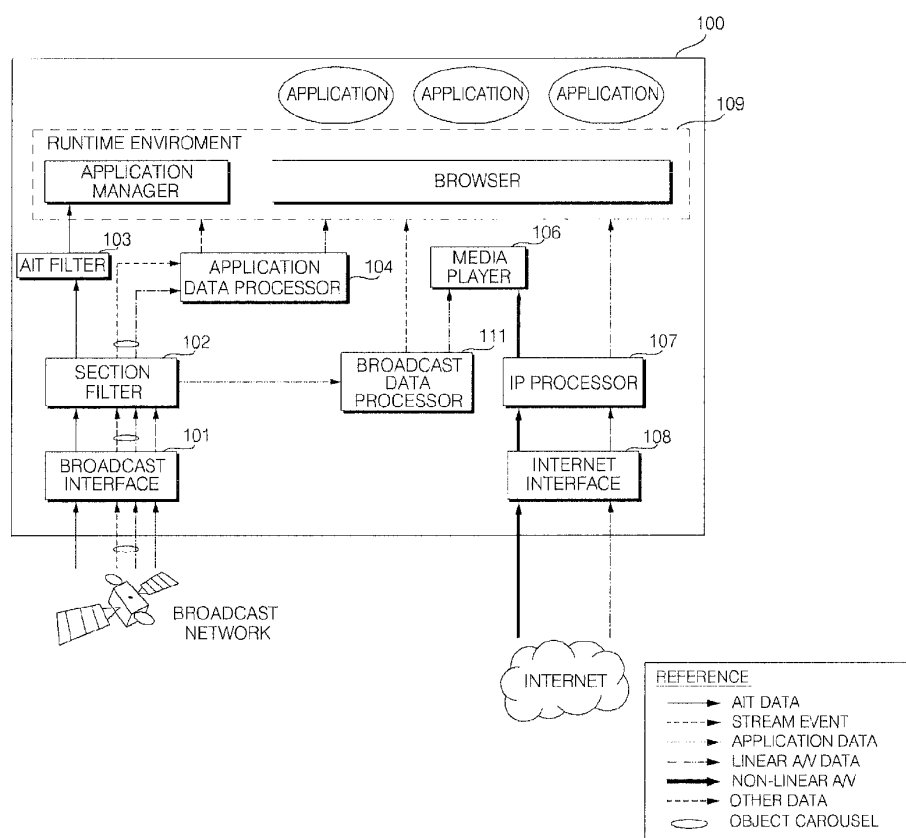
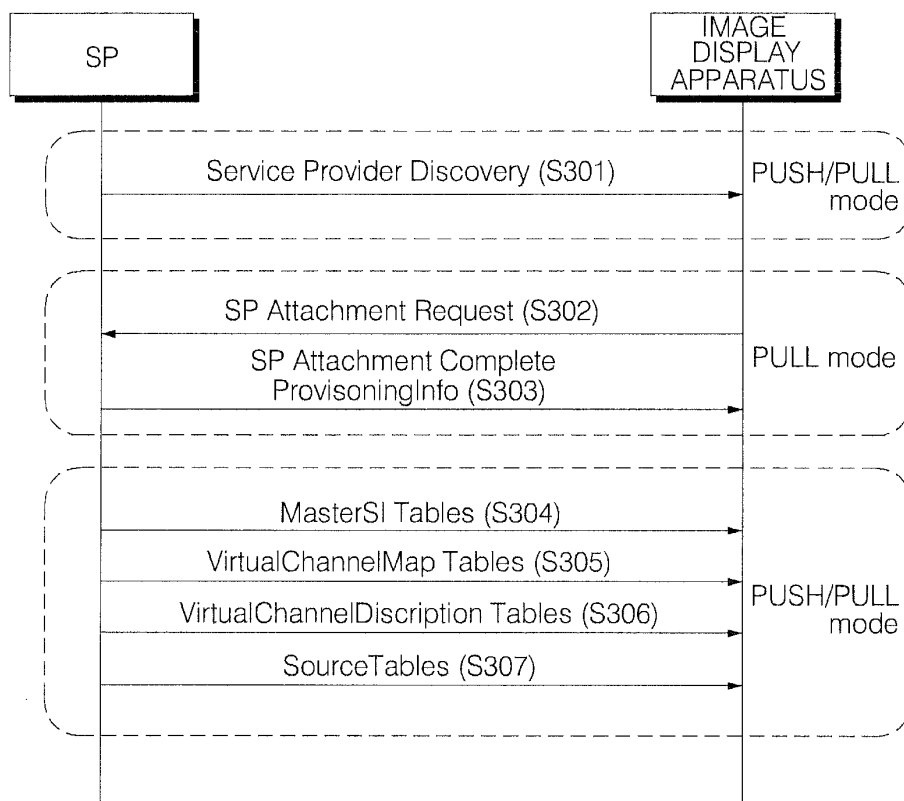


FIG. 3



# 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.