



US00D933691S

(12) **United States Design Patent** (10) **Patent No.:** **US D933,691 S**  
**Merrell et al.** (45) **Date of Patent:** **\*\* Oct. 19, 2021**

(54) **DISPLAY SCREEN WITH GRAPHICAL USER INTERFACE OR PORTION THEREOF**

(71) Applicant: **Google LLC**, Mountain View, CA (US)

(72) Inventors: **Paul Merrell**, Redwood City, CA (US); **Aaron Michael Donsbach**, Seattle, WA (US); **Vinay Damodar Shet**, Millbrae, CA (US); **Jonathan Siegel**, San Francisco, CA (US); **Julien Zachary Reneau-Wedeem**, Chicago, IL (US); **Andrew Kisielius Veritas**, San Francisco, CA (US); **Daniel Caleb Gordon**, Marietta, GA (US); **Su Chuin Leong**, Oakland, CA (US)

(73) Assignee: **GOOGLE LLC**, Mountain View, CA (US)

(\*\*) Term: **15 Years**

(21) Appl. No.: **29/714,367**

(22) Filed: **Nov. 22, 2019**

**Related U.S. Application Data**

(60) Continuation of application No. 29/650,912, filed on Jun. 11, 2018, now Pat. No. Des. 868,092, which is a division of application No. 29/571,893, filed on Jul. 22, 2016, now Pat. No. Des. 829,737, which is a continuation of application No. 29/488,692, filed on Apr. 22, 2014, now Pat. No. Des. 780,777.

(51) **LOC (13) Cl.** ..... **14-04**

(52) **U.S. Cl.**  
USPC ..... **D14/486**

(58) **Field of Classification Search**  
USPC ..... D14/485-495  
CPC .. G06F 3/0481; G06F 3/0482; G06F 3/04842;  
G06F 3/0488; G06F 3/04817; G06F  
3/04845; G06T 2200/24; G06Q 50/01;  
H04L 51/32; H04M 1/2477

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,710,875 A 1/1998 Harashima et al.  
5,754,174 A 5/1998 Carpenter et al.

(Continued)

FOREIGN PATENT DOCUMENTS

CN 102661748 A 9/2012  
EP 1703426 A1 9/2006

OTHER PUBLICATIONS

Kim et al., "A unified visualization framework for spatial and temporal analysis in 4D GIS", Proceedings of 2003 IEEE International Geoscience and Remote Sensing Symposium, 2003, vol. 6, pp. 3715-3717.

(Continued)

*Primary Examiner* — Katherine A Holbrow

(74) *Attorney, Agent, or Firm* — Plumsea Law Group, LLC

(57) **CLAIM**

The ornamental design for a display screen with graphical user interface or portion thereof, as shown and described.

**DESCRIPTION**

FIG. 1 is a front view of an image of a graphical user interface object for a display screen or a portion thereof, according to a first embodiment; and,

FIG. 2 is a front view of an image of a graphical user interface object for a display screen or a portion thereof, according to a second embodiment.

The broken lines show portions of a display screen with graphical user interface or portion thereof and form no part of the claimed design. The perimeters of the graphical user interface or portion thereof and the underlying display screen are understood to be flush.

**1 Claim, 1 Drawing Sheet**



(56)

References Cited

U.S. PATENT DOCUMENTS

D399,501 S *	10/1998	Arora .....	D14/491	D682,842 S	5/2013	Kurata et al.	
5,832,173 A	11/1998	Terasawa et al.		D682,876 S	5/2013	MacNeil	
D406,123 S	2/1999	Hodgson		D683,356 S	5/2013	Hally	
5,912,165 A	6/1999	Cabib et al.		8,447,136 B2	5/2013	Ofek et al.	
D418,495 S	1/2000	Brockel et al.		D684,161 S	6/2013	Truelove et al.	
D424,543 S	5/2000	Hodgson		D684,167 S	6/2013	Yang et al.	
6,075,595 A	6/2000	Malinen		8,510,041 B1	8/2013	Anguelov et al.	
6,177,932 B1	1/2001	Galdes et al.		D689,072 S	9/2013	Park et al.	
6,373,568 B1	4/2002	Miller et al.		D689,079 S	9/2013	Edwards et al.	
D464,360 S	10/2002	Grundel et al.		D689,082 S	9/2013	Stiffler	
6,504,571 B1	1/2003	Narayanaswami et al.		D689,085 S	9/2013	Pasceri et al.	
D471,225 S	3/2003	Gray		D689,089 S	9/2013	Impas et al.	
6,769,131 B1	7/2004	Tanaka et al.		8,543,323 B1	9/2013	Gold et al.	
6,895,126 B2	5/2005	Di Bernardo et al.		D690,737 S	10/2013	Wen et al.	
7,009,699 B2	3/2006	Wolleschensky et al.		D692,450 S	10/2013	Convay et al.	
D523,442 S	6/2006	Hiramatsu		D696,279 S	12/2013	Bortman et al.	
D525,632 S *	7/2006	Jost .....	D14/490	D696,285 S	12/2013	Hally	
D536,340 S *	2/2007	Jost .....	D14/485	8,610,741 B2	12/2013	Szeliski et al.	
7,225,207 B1	5/2007	Ohazama et al.		8,649,663 B2	2/2014	Saitou et al.	
D550,236 S	9/2007	Armendariz		D701,879 S	4/2014	Foit et al.	
D555,664 S	11/2007	Nagata et al.		D701,882 S *	4/2014	Soegiono .....	D14/489
D557,272 S	12/2007	Glaser et al.		8,711,174 B2	4/2014	Fialho et al.	
D558,220 S	12/2007	Maitlen et al.		D706,822 S	6/2014	Wang	
D561,191 S	2/2008	Haning et al.		D708,638 S *	7/2014	Manzari .....	D14/492
D561,193 S	2/2008	O'Mullan et al.		8,791,983 B2	7/2014	Shikata	
D563,975 S	3/2008	Vigesaa		8,817,067 B1	8/2014	Fan et al.	
D566,716 S	4/2008	Rasmussen et al.		D712,920 S	9/2014	Sloo et al.	
7,353,114 B1	4/2008	Rohlf et al.		D713,853 S	9/2014	Jaini et al.	
D571,819 S	6/2008	Scott et al.		D715,316 S	10/2014	Hemeon et al.	
D572,719 S	7/2008	Beamish et al.		D715,820 S	10/2014	Rebstock	
7,398,156 B2	7/2008	Funato		D715,836 S	10/2014	Huang et al.	
D574,388 S	8/2008	Armendariz et al.		8,872,847 B2	10/2014	Nash et al.	
D578,544 S	10/2008	Nathan et al.		D716,827 S	11/2014	Dowd	
D593,578 S	6/2009	Ball et al.		8,893,026 B2	11/2014	Lindemann et al.	
D595,304 S	6/2009	Rasmussen et al.		D719,186 S *	12/2014	Kim .....	D14/488
7,561,169 B2	7/2009	Carroll		8,928,691 B2	1/2015	Maurer et al.	
D599,812 S	9/2009	Hirsch		8,930,141 B2	1/2015	Wither et al.	
D601,165 S	9/2009	Truelove et al.		8,965,696 B2	2/2015	van Os et al.	
D601,166 S	9/2009	Chen et al.		D726,204 S	4/2015	Prajapati et al.	
D602,495 S	10/2009	Um et al.		9,020,745 B2	4/2015	Johnston et al.	
D605,657 S	12/2009	Danton		D728,616 S	5/2015	Gomez et al.	
D606,551 S	12/2009	Willis		D730,378 S	5/2015	Xiong et al.	
7,720,359 B2	5/2010	Koyanagi et al.		D730,379 S	5/2015	Xiong et al.	
RE41,428 E	7/2010	Mayer et al.		9,036,000 B1	5/2015	Ogale et al.	
D619,614 S *	7/2010	O'Mullan .....	D14/489	D731,520 S	6/2015	Xiong et al.	
D620,950 S *	8/2010	Rasmussen .....	D14/489	D731,524 S	6/2015	Brinda et al.	
7,840,032 B2	11/2010	Ofek		D731,545 S	6/2015	Lim et al.	
7,912,634 B2	3/2011	Reed et al.		D732,062 S	6/2015	Kwon	
7,921,108 B2	4/2011	Wang et al.		D732,567 S	6/2015	Moon et al.	
7,971,155 B1	6/2011	Yoon		9,047,692 B1	6/2015	Seitz et al.	
D642,195 S *	7/2011	Marks .....	D14/490	D733,740 S	7/2015	Lee et al.	
7,983,489 B2	7/2011	Aguera y Arcas et al.		D733,741 S	7/2015	Lee et al.	
D645,052 S *	9/2011	Rasmussen .....	D14/489	D734,356 S	7/2015	Xiong et al.	
D645,470 S *	9/2011	Matas .....	D14/489	D735,733 S	8/2015	Hontz, Jr.	
8,064,633 B2	11/2011	Noda et al.		9,106,872 B2	8/2015	Tsurumi	
8,077,918 B2	12/2011	Kirmse et al.		D738,900 S	9/2015	Drozd et al.	
8,085,990 B2	12/2011	Ofek		D738,901 S	9/2015	Amin	
D652,053 S *	1/2012	Impas .....	D14/489	D738,914 S	9/2015	Torres et al.	
8,090,714 B2	1/2012	Yang et al.		9,158,414 B1	10/2015	Gluzberg et al.	
8,103,081 B2	1/2012	Gossage et al.		9,171,527 B2	10/2015	Siegel	
8,145,703 B2	3/2012	Frishert et al.		D743,984 S	11/2015	Salituri	
D656,950 S	4/2012	Shallcross et al.		9,189,839 B1	11/2015	Sheridan et al.	
8,155,391 B1	4/2012	Tang et al.		D745,020 S	12/2015	Mariet et al.	
D661,702 S	6/2012	Asai et al.		D745,038 S	12/2015	Abbas	
D661,704 S *	6/2012	Rasmussen .....	D14/489	D746,313 S	12/2015	Walmsley et al.	
8,213,749 B2	7/2012	Di Bernardo et al.		D746,319 S	12/2015	Zhang et al.	
D664,983 S	8/2012	Moreau et al.		9,215,448 B2	12/2015	Barnes	
D665,409 S	8/2012	Gupta et al.		9,218,682 B2	12/2015	Arrasvuori	
D667,432 S	9/2012	Phelan		9,218,789 B1	12/2015	Lininger et al.	
D667,834 S	9/2012	Coffman et al.		9,225,947 B2	12/2015	Lee et al.	
D667,840 S	9/2012	Anzures		D746,856 S	1/2016	Jiang et al.	
8,274,524 B1	9/2012	Cornell et al.		9,244,940 B1	1/2016	Donsbach et al.	
8,302,007 B2	10/2012	Barcay et al.		9,256,961 B2	2/2016	Lynch	
8,339,394 B1	12/2012	Lininger		9,256,983 B2	2/2016	Lynch	
8,352,465 B1	1/2013	Jing et al.		D754,720 S	4/2016	Yang	
				9,311,396 B2	4/2016	Meadow et al.	
				9,317,188 B2	4/2016	Gregotski et al.	
				9,325,946 B2	4/2016	Tanaka et al.	
				D757,784 S	5/2016	Lee et al.	

(56)

References Cited

U.S. PATENT DOCUMENTS

9,330,501 B2	5/2016	Sahoo et al.		D910,074 S *	2/2021	Matas .....	D14/491
9,330,504 B2	5/2016	Ege		2001/0014185 A1	8/2001	Chitradon et al.	
D760,272 S	6/2016	Li		2001/0017668 A1	8/2001	Wilcock et al.	
9,363,463 B2	6/2016	Taneichi et al.		2002/0047895 A1	4/2002	Bernardo et al.	
9,377,320 B2	6/2016	Sheridan et al.		2002/0075322 A1	6/2002	Rosenzweig et al.	
D762,238 S	7/2016	Day et al.		2002/0122073 A1	9/2002	Abrams et al.	
9,390,519 B2	7/2016	Lynch		2002/0171668 A1	11/2002	Samra	
D762,702 S	8/2016	Hoang et al.		2003/0025803 A1	2/2003	Nakamura et al.	
D763,294 S	8/2016	Amin et al.		2003/0030636 A1	2/2003	Yamaoka	
9,411,419 B2	8/2016	Kasahara et al.		2003/0117611 A1	6/2003	Chon et al.	
9,418,472 B2	8/2016	Dillard et al.		2003/0142523 A1	7/2003	Biacs	
9,424,536 B2	8/2016	Bear et al.		2004/0001109 A1	1/2004	Blancett et al.	
D766,263 S	9/2016	Rice et al.		2004/0125133 A1	7/2004	Pea et al.	
D767,589 S	9/2016	Ye et al.		2004/0125148 A1	7/2004	Pea et al.	
9,442,956 B2	9/2016	Konig et al.		2004/0196282 A1	10/2004	Oh	
9,454,848 B2	9/2016	Mattila		2004/0264919 A1	12/2004	Taylor et al.	
D768,178 S	10/2016	Valade et al.		2005/0063608 A1	3/2005	Clarke et al.	
D768,685 S	10/2016	Lee et al.		2005/0216186 A1	9/2005	Dorfman et al.	
D769,279 S	10/2016	Woo et al.		2005/0232606 A1	10/2005	Hosoda et al.	
D769,909 S	10/2016	Roberts et al.		2006/0041591 A1	2/2006	Rhoads	
D769,931 S	10/2016	McMillan et al.		2006/0120624 A1	6/2006	Jojic et al.	
9,471,834 B1	10/2016	Filip		2006/0181546 A1	8/2006	Jung et al.	
9,477,368 B1	10/2016	Filip et al.		2006/0203335 A1	9/2006	Martin et al.	
9,529,803 B2	12/2016	Kisielius et al.		2006/0208926 A1	9/2006	Poor et al.	
9,532,008 B2	12/2016	Ohnishi		2006/0238379 A1	10/2006	Kimchi et al.	
9,535,587 B2	1/2017	Dorfman et al.		2006/0251338 A1	11/2006	Gokturk et al.	
9,551,579 B1	1/2017	Sheridan et al.		2006/0266942 A1	11/2006	Ikeda	
9,554,060 B2	1/2017	Filip		2006/0271287 A1	11/2006	Gold et al.	
D780,197 S	2/2017	Mariet et al.		2007/0024722 A1	2/2007	Eura et al.	
D780,210 S *	2/2017	Kisielius .....	D14/486	2007/0081081 A1	4/2007	Cheng	
D780,211 S *	2/2017	Kisielius .....	D14/486	2007/0096945 A1	5/2007	Rasmussen et al.	
9,569,498 B2	2/2017	Sheridan et al.		2007/0103461 A1	5/2007	Suzuno et al.	
D780,777 S *	3/2017	Kisielius .....	D14/486	2007/0110338 A1	5/2007	Snavelly et al.	
D780,794 S *	3/2017	Kisielius .....	D14/486	2007/0113255 A1	5/2007	Kurosawa	
D780,795 S *	3/2017	Kisielius .....	D14/486	2007/0136259 A1	6/2007	Dorfman et al.	
D780,796 S *	3/2017	Kisielius .....	D14/486	2007/0150188 A1	6/2007	Rosenberg	
D780,797 S *	3/2017	Kisielius .....	D14/486	2007/0216709 A1	9/2007	Kojima et al.	
D780,801 S	3/2017	Jann et al.		2007/0250477 A1	10/2007	Bailly	
D781,310 S	3/2017	Mariet et al.		2007/0279438 A1	12/2007	Takakura et al.	
D781,317 S *	3/2017	Kisielius .....	D14/486	2008/0002962 A1	1/2008	Ito et al.	
D781,318 S *	3/2017	Kisielius .....	D14/486	2008/0016472 A1	1/2008	Rohlf et al.	
D781,335 S	3/2017	Ball et al.		2008/0043020 A1	2/2008	Snow et al.	
D781,337 S *	3/2017	Kisielius .....	D14/486	2008/0060004 A1	3/2008	Nelson et al.	
9,601,087 B2	3/2017	Suzuki et al.		2008/0066000 A1	3/2008	Ofek et al.	
D784,395 S	4/2017	Laing et al.		2008/0077597 A1	3/2008	Butler	
9,641,755 B2	5/2017	Lynch		2008/0089593 A1	4/2008	Ohwa	
D791,811 S *	7/2017	Kisielius .....	D14/486	2008/0091635 A1	4/2008	James et al.	
D791,813 S *	7/2017	Kisielius .....	D14/486	2008/0158366 A1	7/2008	Jung et al.	
D792,460 S *	7/2017	Kisielius .....	D14/491	2008/0174593 A1	7/2008	Ham et al.	
9,791,290 B2	10/2017	Kraus et al.		2008/0187181 A1	8/2008	Meadow et al.	
9,805,064 B2	10/2017	Kojima et al.		2008/0266142 A1	10/2008	Sula et al.	
9,813,621 B2	11/2017	Anderson et al.		2008/0285886 A1	11/2008	Allen	
9,841,291 B2	12/2017	Sheridan et al.		2008/0291201 A1	11/2008	Lafon	
9,864,481 B2	1/2018	Misawa		2008/0291217 A1	11/2008	Vincent et al.	
9,886,794 B2	2/2018	van Os et al.		2008/0292213 A1	11/2008	Chau	
9,898,857 B2	2/2018	Dillard et al.		2009/0046057 A1	2/2009	Umezawa	
9,924,156 B2	3/2018	Barnes		2009/0063424 A1	3/2009	Iwamura et al.	
9,934,222 B2	4/2018	Leong et al.		2009/0064014 A1	3/2009	Nelson et al.	
9,972,121 B2	5/2018	Li et al.		2009/0135178 A1	5/2009	Aihara et al.	
10,030,990 B2	7/2018	Lynch		2009/0179895 A1	7/2009	Zhu et al.	
D829,737 S *	10/2018	Kisielius .....	D14/486	2009/0202102 A1	8/2009	Miranda et al.	
D830,399 S *	10/2018	Kisielius .....	D14/486	2009/0213112 A1	8/2009	Zhu et al.	
D830,407 S *	10/2018	Kisielius .....	D14/487	2009/0240431 A1	9/2009	Chau et al.	
10,094,675 B2 *	10/2018	Hajj .....	G01C 21/3667	2009/0279794 A1	11/2009	Brucher et al.	
10,127,722 B2	11/2018	Shakib et al.		2009/0284551 A1	11/2009	Stanton	
10,139,985 B2	11/2018	Mildrew et al.		2009/0290812 A1	11/2009	Naaman et al.	
D835,147 S *	12/2018	Kisielius .....	D14/486	2009/0303251 A1	12/2009	Balogh et al.	
10,163,263 B2	12/2018	Zhu et al.		2010/0064239 A1	3/2010	Crawford et al.	
10,176,633 B2	1/2019	Moore et al.		2010/0115455 A1	5/2010	Kim	
D844,022 S *	3/2019	Amin .....	D14/487	2010/0122208 A1	5/2010	Herr et al.	
10,247,568 B2	4/2019	Fillhardt et al.		2010/0149212 A1	6/2010	Fukuya et al.	
D868,092 S *	11/2019	Veritas .....	D14/486	2010/0184451 A1	7/2010	Wang et al.	
D868,093 S *	11/2019	Veritas .....	D14/486	2010/0188503 A1	7/2010	Tsai et al.	
D877,765 S *	3/2020	Veritas .....	D14/486	2010/0215250 A1	8/2010	Zhu	
D882,617 S *	4/2020	Zhang .....	D14/486	2010/0215254 A1	8/2010	Prokhorov	
				2010/0250581 A1	9/2010	Chau	
				2010/0259641 A1	10/2010	Fujimoto	
				2010/0309512 A1	12/2010	Onoda	
				2010/0316357 A1	12/2010	Saitou et al.	

(56)

References Cited

U.S. PATENT DOCUMENTS

2010/0325589 A1 12/2010 Ofek et al.  
 2011/0007094 A1\* 1/2011 Nash ..... G06F 16/50  
 345/634  
 2011/0007130 A1 1/2011 Park et al.  
 2011/0007134 A1 1/2011 Knize et al.  
 2011/0010668 A1 1/2011 Feldstein et al.  
 2011/0016398 A1 1/2011 Hanes  
 2011/0050706 A1 3/2011 Cherna et al.  
 2011/0055749 A1 3/2011 Wallace et al.  
 2011/0074707 A1 3/2011 Watanabe et al.  
 2011/0074811 A1 3/2011 Hanson et al.  
 2011/0085778 A1 4/2011 Iwase et al.  
 2011/0123120 A1 5/2011 Quack  
 2011/0173565 A1 7/2011 Ofek et al.  
 2011/0211040 A1 9/2011 Lindemann et al.  
 2011/0211764 A1 9/2011 Krupka et al.  
 2011/0234832 A1 9/2011 Ezoe et al.  
 2011/0249166 A1\* 10/2011 Moriyama ..... H04N 1/00132  
 348/333.02  
 2011/0254976 A1 10/2011 Garten  
 2011/0302527 A1 12/2011 Chen et al.  
 2012/0011464 A1 1/2012 Hayashi et al.  
 2012/0033032 A1 2/2012 Kankainen  
 2012/0062695 A1\* 3/2012 Sakaki ..... G08B 13/19691  
 348/36  
 2012/0075410 A1\* 3/2012 Matsumoto ..... H04N 5/23238  
 348/36  
 2012/0092447 A1\* 4/2012 Jeong ..... H04L 67/025  
 348/36  
 2012/0098854 A1 4/2012 Ohnishi  
 2012/0127066 A1 5/2012 Iida et al.  
 2012/0169769 A1 7/2012 Minamino et al.  
 2012/0188247 A1 7/2012 Cheung et al.  
 2012/0191339 A1 7/2012 Lee et al.  
 2012/0194547 A1 8/2012 Johnson et al.  
 2012/0242783 A1 9/2012 Seo et al.  
 2012/0274625 A1 11/2012 Lynch  
 2012/0281119 A1 11/2012 Ohba et al.  
 2012/0293607 A1 11/2012 Bhogal et al.  
 2012/0299920 A1 11/2012 Coombe et al.  
 2012/0300019 A1 11/2012 Yang et al.  
 2012/0301039 A1 11/2012 Maunder et al.  
 2012/0316782 A1 12/2012 Sartipi et al.  
 2013/0035853 A1 2/2013 Stout et al.  
 2013/0044108 A1 2/2013 Tanaka et al.  
 2013/0076784 A1 3/2013 Maurer et al.  
 2013/0100114 A1 4/2013 Lynch  
 2013/0103303 A1 4/2013 Lynch  
 2013/0106990 A1 5/2013 Williams et al.  
 2013/0162665 A1 6/2013 Lynch  
 2013/0169668 A1 7/2013 Lynch  
 2013/0169685 A1 7/2013 Lynch  
 2013/0182108 A1 7/2013 Meadow et al.  
 2013/0201216 A1 8/2013 Nakamura et al.  
 2013/0232168 A1 9/2013 McGregor et al.  
 2013/0239057 A1\* 9/2013 Ubillos ..... G06F 3/04842  
 715/833  
 2013/0294650 A1 11/2013 Fukumiya et al.  
 2013/0321461 A1 12/2013 Filip  
 2013/0332890 A1 12/2013 Ramic et al.  
 2014/0002439 A1 1/2014 Lynch  
 2014/0002440 A1 1/2014 Lynch  
 2014/0016193 A1 1/2014 Terashima et al.  
 2014/0019301 A1 1/2014 Meadow et al.  
 2014/0019302 A1 1/2014 Meadow et al.  
 2014/0023355 A1 1/2014 Terashima  
 2014/0078177 A1 3/2014 Yamaji et al.  
 2014/0078263 A1 3/2014 Kim  
 2014/0079322 A1 3/2014 Yamaji et al.  
 2014/0118405 A1 5/2014 Chand et al.  
 2014/0164988 A1 6/2014 Barnett et al.  
 2014/0181259 A1 6/2014 You  
 2014/0210940 A1 7/2014 Barnes  
 2014/0240455 A1 8/2014 Subbian et al.

2014/0253542 A1 9/2014 Jung et al.  
 2014/0297575 A1 10/2014 Rapoport et al.  
 2014/0362108 A1 12/2014 Aguera-Arcas  
 2014/0376823 A1 12/2014 Cui et al.  
 2015/0077521 A1 3/2015 Borchert et al.  
 2015/0085068 A1 3/2015 Becker et al.  
 2015/0109328 A1 4/2015 Gallup et al.  
 2015/0109513 A1 4/2015 Nayar et al.  
 2015/0113474 A1 4/2015 Gallup et al.  
 2015/0130848 A1 5/2015 Sakaniwa et al.  
 2015/0145995 A1 5/2015 Shahraray et al.  
 2015/0154736 A1 6/2015 Seitz et al.  
 2015/0161807 A1 6/2015 Pack  
 2015/0170615 A1 6/2015 Siegel  
 2015/0185018 A1 7/2015 Hesch et al.  
 2015/0185873 A1 7/2015 Ofstad et al.  
 2015/0185991 A1\* 7/2015 Ho ..... G01C 21/00  
 715/771  
 2015/0235398 A1 8/2015 Kim et al.  
 2015/0248197 A1 9/2015 Peters et al.  
 2015/0254694 A1\* 9/2015 Filip ..... G06Q 30/0207  
 705/14.1  
 2015/0262391 A1 9/2015 Chau  
 2015/0278878 A1 10/2015 Chau  
 2015/0294153 A1 10/2015 Naithani et al.  
 2015/0301695 A1\* 10/2015 Leong ..... G06F 16/5866  
 715/838  
 2015/0302633 A1\* 10/2015 Li ..... G09G 5/14  
 345/419  
 2015/0304588 A1 10/2015 Jung et al.  
 2015/0310596 A1 10/2015 Sheridan et al.  
 2015/0371389 A1 12/2015 Siegel et al.  
 2016/0005437 A1 1/2016 Barry et al.  
 2016/0014190 A1 1/2016 Sheory  
 2016/0019223 A1 1/2016 Kisielius et al.  
 2016/0019713 A1 1/2016 Dillard et al.  
 2016/0027177 A1 1/2016 Hutchison  
 2016/0042252 A1 2/2016 Sawhney et al.  
 2016/0048934 A1 2/2016 Gross  
 2016/0063516 A1 3/2016 Terrazas et al.  
 2016/0063705 A1 3/2016 Xu et al.  
 2016/0081620 A1 3/2016 Narayanan et al.  
 2016/0098612 A1 4/2016 Viviani  
 2016/0140744 A1 5/2016 Strelow et al.  
 2016/0156840 A1 6/2016 Arai et al.  
 2016/0179760 A1 6/2016 Strong et al.  
 2016/0209648 A1 7/2016 Haddick et al.  
 2016/0231134 A1 8/2016 Nguyen Kim et al.  
 2016/0321783 A1 11/2016 Citrin et al.  
 2016/0349066 A1 12/2016 Chung et al.  
 2016/0379094 A1 12/2016 Mittal et al.  
 2017/0109612 A1 4/2017 Mittal et al.  
 2017/0116477 A1 4/2017 Chen et al.  
 2017/0132224 A1 5/2017 Yang  
 2017/0142766 A1 5/2017 Kim  
 2017/0178404 A1 6/2017 Dillard et al.  
 2017/0256040 A1 9/2017 Grauer  
 2017/0287221 A1 10/2017 Ghaly et al.  
 2017/0300511 A1 10/2017 Brewington et al.  
 2017/0308752 A1 10/2017 Takeuchi et al.  
 2017/0356755 A1 12/2017 Strawn et al.  
 2018/0018754 A1 1/2018 Leng et al.  
 2018/0035074 A1 2/2018 Barnes, Jr.  
 2018/0053293 A1 2/2018 Ramalingam et al.  
 2018/0061126 A1 3/2018 Huang et al.  
 2018/0143023 A1 5/2018 Bjorke et al.  
 2018/0143756 A1 5/2018 Mildrew et al.  
 2018/0350126 A1 12/2018 Oh  
 2019/0005719 A1 1/2019 Fleischman et al.  
 2019/0026793 A1 1/2019 Rollon  
 2019/0043259 A1 2/2019 Wang et al.  
 2019/0051029 A1 2/2019 Schpok  
 2019/0087067 A1 3/2019 Hovden et al.

OTHER PUBLICATIONS

Luttermann et al., "VRML History: Storing and Browsing Temporal 3D-Worlds", University of Siegen, 1999, pp. 153-181.

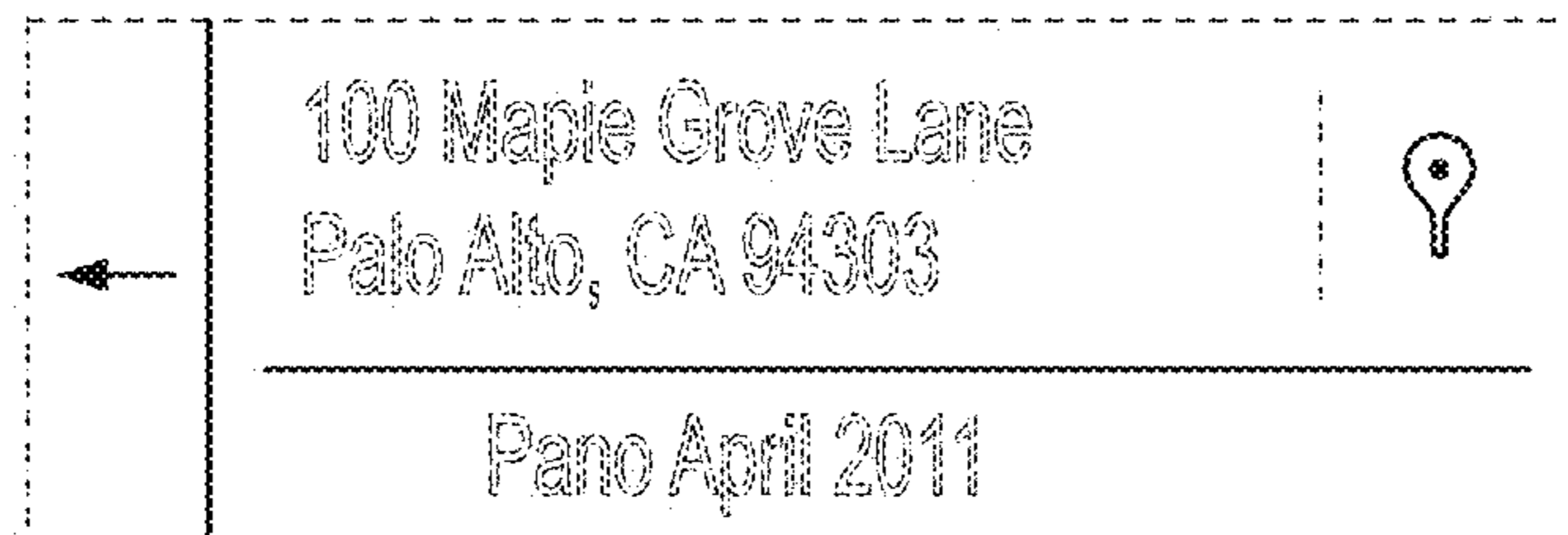
(56)

## References Cited

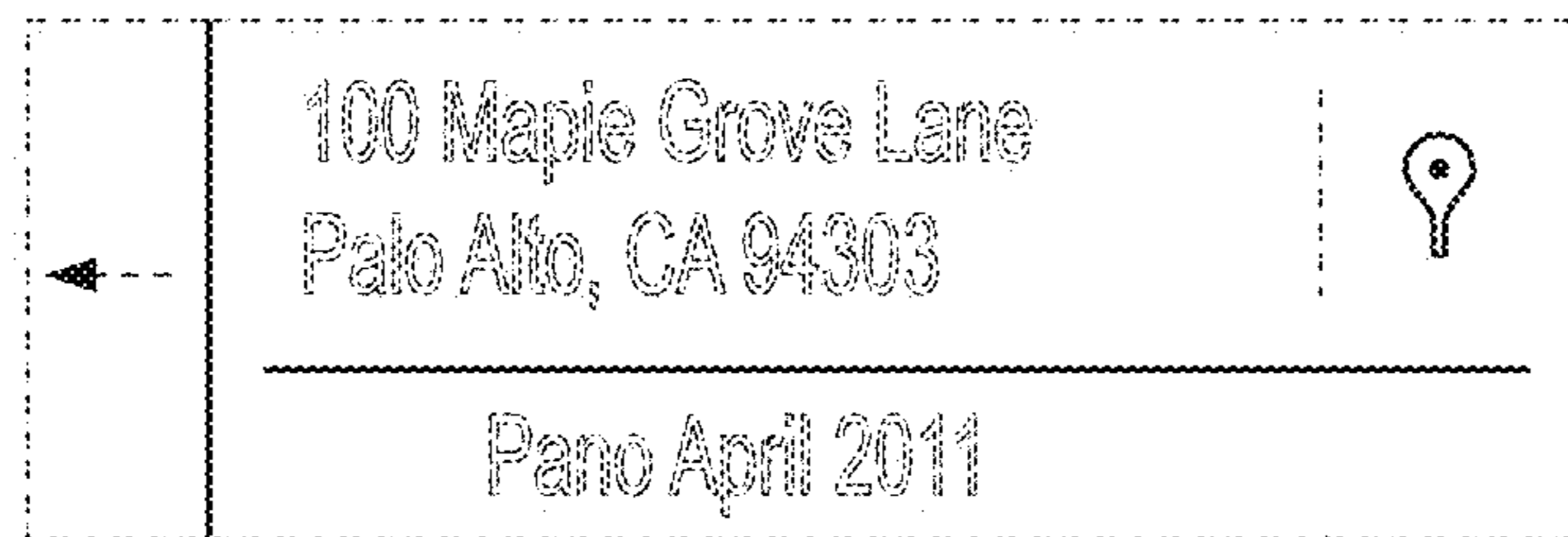
## OTHER PUBLICATIONS

- Wu, et al, "Automatic Alignment of Large-scale Aerial Rasters to Road-maps" Proceedings of the 15th international Symposium on Advances in Geographic information Systems, 2007.
- Barclay, et al., "Microsoft TerraServer: A Spatial Data Warehouse", 2005.
- Bauman, "Raster Databases", 2007.
- Ghemawat, et al. "The Google File System", 2003.
- U.S. Appl. No. 11/415,960, Zelirilca et al., "Coverage Mask Generation for Large Images", filed May 2, 2006.
- U.S. Appl. No. 11/437,553, "Large-Scale Image Processing Using Mass Parallelization Techniques", filed May 19, 2006.
- U.S. Appl. No. 11/473,461, Kirmse et al, "Hierarchical Spatial Data Structure and 3D Index Data Versioning for Generating Packet Data", filed Jun. 22, 2006.
- Scranton et al., "Sky in Google Earth: The Next Frontier in Astronomical Data Discovery and Visualization", <http://earth.google.com/sky/>, Sep. 10, 2007.
- International Search Report, PCT/US09/04817, dated Oct. 8, 2009. <http://ieeexplore.ieee.org/search> retrieved from the Internet on Sep. 7, 2010.
- Potmesil M., "Maps alive: Viewing geospatial information on the WWW", Computer Systems and ISDN Systems, North Holland Publishing, Amsterdam, NL, vol. 29, No. 8-13, Sep. 1, 1997 (Sep. 1, 1997), pp. 1327-1342, XP004095328.
- Nan L. et al., "A spatial-temporal system for dynamic cadastral management," Journal of Environmental Management, Academic Press, London, GB, vol. 78, No 4, Mar. 1, 2006 (Mar. 1, 2006), pp. 373-381, retrieved on Mar. 1, 2006.
- Rocchini D. et al., "Landscape change and the dynamics of open formations in a natural reserve," Landscape and urban Planning, Elsevier, vol. 77, No. 1-2, Jun. 15, 2006 (Jun. 15, 2006), pp. 167-177, retrieved on Jun. 15, 2006.
- The extended European search report, Application No. EP 09 81 0353.4, PCT/US2009004817, dated Dec. 5, 2011.
- Gail Langran, Nicholas R. Chrisman: "A Framework for temporal Geographic Information", University of Washington Cartographica, vol. 25, No. 3, Dec. 31, 1988 (Dec. 31, 1988), pp. 1-14, Retrieved from the Internet: URL:[http://www.unigis.ac.at/femstudien/unigis\\_professional/lehrgangs\\_cd\\_1.../module//modul2/Temporal%20Geographic%20Information.pdf](http://www.unigis.ac.at/femstudien/unigis_professional/lehrgangs_cd_1.../module//modul2/Temporal%20Geographic%20Information.pdf).
- European Examination Report for Application No. 09810353.4 dated Oct. 18, 2012.
- Vlahakis et al., "Archeoguide: An Augmented Reality Guide for Archaeological Sites", IEEE Computer Graphics and Applications, Sep./Oct. 2002, pp. 52-60.
- Haval, "Three-Dimensional Documentation of Complex Heritage Structures", Interpretive Environments, Apr.-Jun. 2000, pp. 52-55.
- Magenat-Thalmann et al., "Real-Time Animation of Ancient Roman Sites", 2006, pp. 19-30.
- Conti et al., "Dentro Trento—A virtual Walk Across history", 2006, pp. 318-321.
- European Office Action for Application No. 09810353 dated Oct. 9, 2013.
- U.S. Appl. No. 13/854,314, filed Apr. 1, 2013.
- U.S. Appl. No. 13/870,419, filed Apr. 25, 2013.
- Bhagavathy et al., "Modeling and Detection of Geospatial Objects Using Texture Motifs" 3706 IEEE Transactions on Geoscience and Remote Sensing. vol. 44, No. 12, Dec. 2006.
- Blackcoffee Design, 1000 Icons Symbols and Pictograms: Visual Communication for Every Language, Gloucester, MA: Rockport Publishers, 2006, 29, 49, 65, 101.
- Iconfinder, "Expand Icons", [unknown date], Iconfinder [online], [site visited Oct. 19, 2015]. Available from internet: <URL:<https://www.iconfinder.com/search/?q=expand>>.
- Frutiger, Adrian, Signs and Symbols: their design and meaning, New York: Watson-Guption Publications, 1998, 337, 350.
- Dreyfuss, Henry, Symbol Sourcebook, New York: Van Nostrand Reinhold Co., 1972, 28.
- Taylor, Frank, New Google Maps Moon Update, Sep. 13, 2007, Google Earth Blog [online], [site visited Oct. 15, 2015]. Available from Internet: <URL: [https://www.gearthblog.com/blog/archives/2007/09/new\\_google\\_maps\\_moon\\_update.html](https://www.gearthblog.com/blog/archives/2007/09/new_google_maps_moon_update.html)>.
- Abair, Randy, Google Maps Changes, Sep. 2013 Online Marketing Year in Review, Jan. 2, 2014, Vermont DesignWorks Blog [online], [site visited Oct. 15, 2015]. Available from Internet: <URL: <http://www.vtdesignworks.com/blog/seo-2013>>.
- GordyHanner, Why can't I watch Videos in full screen on Youtube?, Dec. 6, 2010, Youtube [online], [site visited Oct. 15, 2015]. Available from Internet: <URL:<https://www.youtube.com/watch?v=8n7nn-3CI2A>>.
- Clohessy, James W. and Patrick J Cerra, How do you warn 19 million people at the drop of a hat?, ArcNews, Fall 2011, [online], [site visited Oct. 15, 2015]. Available from Internet: <URL:<https://www.esri.com/news/arcnews/fall11/articles/how-do-you-warn-19-million-people-at-the-drop-of-a-hat.html>>.
- Icons, Google Design Library, updated, Google Inc. [online], [site visited Oct. 19, 2015]. Available from Internet: <<https://www.google.com/design/icons/>>.
- Thompson, Helen, With Google Maps, Apr. 23, 2014, Smithsonianmag.com [online], [site visited Jul. 19, 2016]. Available from Internet: <<http://www.smithsonianmag.com/innovation/google-maps-unveils-time-travel-function-street-view-180951184/?no-ist>>.
- International Preliminary Report on Patentability for PCT Application No. PCT/US2015/025551, dated Nov. 3, 2016.
- Wikipedia, Google Street View, Sep. 3, 2014, wikipedia.com [online], [site visited Nov. 4, 2016]. Available from Internet: ([https://en.wikipedia.org/wiki/Google\\_Street\\_View](https://en.wikipedia.org/wiki/Google_Street_View)>.
- Wikipedia, Google Maps Street View redesign, Jun. 10, 2014, wikipedia.com [online], [site visited Nov. 7, 2016]. Available from Internet: <[https://en.wikipedia.org/wiki/Google\\_Maps](https://en.wikipedia.org/wiki/Google_Maps)>.
- Snaveley et al., "Photo Tourism: Exploring Photo Collections in 3D", 2006, Particularly see: FIGS. 1 (c), 5, Section 5.1, 12 pages.
- First Office Action dated Mar. 20, 2018, for Chinese Patent Application No. 201580020984.2.
- Second Office Action dated Jan. 8, 2019, for Chinese Patent Application No. 201580020984.2.
- Examination Report issued in European Patent Application 15771739.8, dated Jan. 23, 2019, 5 pages.
- Rejection Decision for Chinese Patent Application No. 201580020984.2 dated May 28, 2019.
- Examination Report for European Patent Application No. 15771739.8, dated May 8, 2018. 10 pages.

\* cited by examiner



**FIG. 1**



**FIG. 2**