PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE: NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
GOOGLE LLC	10/30/2017

RECEIVING PARTY DATA

Name:	X DEVELOPMENT LLC	
Street Address:	1600 AMPHITHEATRE PARKWAY	
City:	MOUNTAIN VIEW	
State/Country:	CALIFORNIA	
Postal Code:	94043	

PROPERTY NUMBERS Total: 42

Property Type	Number
Application Number:	61718645
Application Number:	14061668
Application Number:	61718648
Application Number:	61718650
Application Number:	61718653
Application Number:	61718654
Application Number:	61718655
Application Number:	61719871
Application Number:	14061669
Application Number:	61766398
Application Number:	61813786
Application Number:	14197536
Application Number:	15243034
Application Number:	61815146
Application Number:	14246205
Application Number:	61838698
Application Number:	14191831
PCT Number:	US2014043642
Application Number:	15134963
Application Number:	61838700

PATENT REEL: 044547 FRAME: 0574

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Property Type	Number
Application Number:	14308800
Application Number:	15591286
Application Number:	61838703
Application Number:	14313018
Application Number:	61838707
Application Number:	14311799
Application Number:	15242754
Application Number:	61838712
Application Number:	14311810
Application Number:	15372126
Application Number:	61838715
Application Number:	14309981
Application Number:	61838718
Application Number:	14312877
Application Number:	14878329
Application Number:	61838720
Application Number:	14312905
Application Number:	61838733
Application Number:	14309994
Application Number:	61838735
Application Number:	14191819
Application Number:	15341475

CORRESPONDENCE DATA

Fax Number: (312)913-0002

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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Email: mueller@mbhb.com

Correspondent Name: MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP

Address Line 1: 300 SOUTH WACKER DRIVE Address Line 4: CHICAGO, ILLINOIS 60606

ATTORNEY DOCKET NUMBER:	REDWOOD	
NAME OF SUBMITTER:	JOSEPH A. HERNDON	
SIGNATURE:	/Joseph A. Herndon/	
DATE SIGNED:	01/05/2018	

Total Attachments: 7

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PATENT REEL: 044547 FRAME: 0576

ASSIGNMENT

WHEREAS, GOOGLE LLC, a limited liability company organized under the laws of the State of Delaware, having a place of business at 1600 Amphitheatre Parkway, Mountain View, CA 94043 ("ASSIGNOR"), is the owner of the entire right, title and interest in and to the patents and/or patent applications listed in the attached Schedule A ("PATENTS AND PATENT APPLICATIONS").

WHEREAS, X DEVELOPMENT LLC, a limited liability company organized under the laws of the State of Delaware, having a place of business at 1600 Amphitheatre Parkway, Mountain View, CA 94043 ("ASSIGNEE"), desires to obtain the entire right, title and interest in and to the PATENTS AND PATENT APPLICATIONS.

NOW, THEREFORE, in consideration of the good and valuable consideration received by ASSIGNOR from ASSIGNEE, the receipt and sufficiency of which is hereby acknowledged, ASSIGNOR hereby assigns and transfers to ASSIGNEE the entire right, title and interest in and to the PATENTS AND PATENT APPLICATIONS, and all rights of enforcement thereto, including all rights to sue or recover for the past infringement thereof, and further including the right to file and prosecute in its own name, wherever so permitted by law, patent applications, including corresponding applications, based on any of the PATENTS AND PATENT APPLICATIONS, and to claim priority to any of the PATENTS AND PATENT APPLICATIONS pursuant to the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes. ASSIGNEE may apply for and receive patents in its own name wherever so permitted by law and ASSIGNOR shall, when requested by ASSIGNEE, execute or cause to be executed all rightful oaths, assignments, and powers of attorney to ASSIGNEE or to agents and legal representatives of ASSIGNEE, and all other papers necessary and proper to carry out the intent and purpose of this Assignment, and ASSIGNOR further agrees:

a. to execute all papers necessary in connection with the PATENTS AND PATENT APPLICATIONS, and any continuing, divisional, reissue, reexamination or other corresponding application thereof and to execute any separate Assignment in connection with such application as ASSIGNEE may deem necessary or expedient; and

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b.	to perform all affirmative acts which may be necessary to obtain a grant of a valid
patent to AS	SIGNEE on any of the PATENTS AND PATENT APPLICATIONS and on any
continuation	n, division, reissue or reexamination of any of the PATENTS AND PATENT
APPLICAT	IONS.
ASS	IGNOR retains no ownership rights in the patent applications, the patents, the
inventions, a	and the rights transferred to ASSIGNEE hereunder.
	VITNESS WHEREOF, ASSIGNOR has caused this Assignment to be executed by its zed representative on this <u>多</u> day of <u>October</u> , 2017.
	GOOGLE LLC
	By: Jeremiah Chan
	Title: Assistant Secretary
	Date: <u>() (10) 54</u> 30, 2017
State of Cali	fornia
County of	
On_	, before me personally appeared,
who proved	to me on the basis of satisfactory evidence to be the person whose name is
subscribed to	the within instrument and acknowledged to me that he/she executed the same in
his/her autho	orized capacity, and that by his/her signature on the instrument the person, or the
entity upon b	pehalf of which the person acted, executed the instrument.
I cert	tify under PENALTY OF PERJURY under the laws of the State of California that
the foregoing	g paragraph is true and correct.
WIT	NESS my hand and official seal.
(Seal)	
	Notary Public
	inotary rudite

ASSIGNEE hereby accepts receipt of the entire right, title and interest in and to the PATENTS AND PATENT APPLICATIONS.

· · · · · · · · · · · · · · · · · · ·	X DE	VELOPMENT LLC	
v V	Ву:	Jeffery Scott Heileson	
	Date:	Title: Senior Patent Counsel	
State of California			
County of			
On, before me per	sonally	appeared	<u>.</u>
who proved to me on the basis of satisfactor	y evide	nce to be the person whose name	is
subscribed to the within instrument and ack	nowledg	ged to me that he/she executed the	e same in
his/her authorized capacity, and that by his/h	ner sign	ature on the instrument the perso	n, or the
entity upon behalf of which the person acted	l, execu	ted the instrument.	5
I certify under PENALTY OF PER	JURY 1	under the laws of the State of Co	alifornia that
the foregoing paragraph is true and correct.		· ·	
WITNESS my hand and official seal			
(Seal)			
*			
	Notary	Public	

SCHEDULE A

Reference No.	Jurisdiction	Application Number	Filing Date	Issue Date	Patent Number
13-1306-PRO	US	61/718,645	10/25/12	-	***
13-1306-US	US	14/061,668	10/23/13	2/21/17	9,574,646
13-1307-PRO	US	61/718,648	10/25/12	vel	
13-1308-PRO	US	61/718,650	10/25/12	1	
13-1309-PRO	US	61/718,653	10/25/12		-
13-1310-PRO	US	61/718,654	10/25/12	1	-
13-1311-PRO	US	61/718,655	10/25/12	4	_
13-1312-PRO	US	61/719,871	10/29/12	<u></u>	-
13-1312-US	US	14/061,669	10/23/13	B ank	_
13-1321-PRO	US	61/766,398	2/19/13	-	=
13-1322-PRO	US	61/813,786	4/19/13	-	-
13-1322	US	14/197,536	3/5/14	9/20/16	9,447,849
13-1322-US-DIV	US	15/243,034	8/22/16	-	_
13-1323-PRO	US	61/815,146	4/23/13	-	_
13-1323-US	US	14/246,205	4/7/14	11/29/16	9,509,195
13-1324-PRO	US	61/838,698	6/24/13		-
13-1324	US	14/191,831	. 2/27/14	5/24/16	9,346,160
***************************************		PCT/US2014/04			
13-1324-WO	WO	3642	6/23/14	-	
13-1324-WO-CN	CN	201480034370.5	6/23/14	_	_
13-1324-WO-EP	EP	14742400.6	6/23/14	_	-
13-1324-WO-JP	JР	2016-521886	6/23/14	-m	
13-1324-WO-KR	KR	10-2015-7036316	6/23/14	vn	
13-1324-US-CON	US	15/134,963	4/21/16		-
13-1325-PRO	US	61/838,700	6/24/13	-	-
13-1325	US	14/308,800	6/19/14	-	
13-1325-CON	US	15/591,286	5/10/17		~
13-1326-PRO	US	61/838,703	6/24/13		-
13-1326-US	US	14/313,018	6/24/14	11/29/16	9,505,136
13-1327-PRO	US	61/838,707	6/24/13	-	-
13-1327	US	14/311,799	6/23/14	10/11/16	9,465,384
13-1327-CON	US	15/242,754	8/22/16	-	-
13-1328-PRO	US	61/838,712	6/24/13	-	-
13-1328	US	14/311,810	6/23/14	2/7/17	9,561,590
13-1328-CON	US	15/372,126	12/7/16		-
13-1329-PRO	US	61/838,715	6/24/13		-
13-1329	US	14/309,981	6/20/14	12/8/15	9,205,560
13-1330-PRO	US	61/838,718	6/24/13		-
13-1330	US	14/312,877	6/24/14	11/17/15	9,186,795
13-1330-US-CON	US	14/878,329	10/8/2015	5/24/16	9,346,164
13-1331-PRO	US	61/838,720	6/24/13	-	-
13-1331	US	14/312,905	6/24/14	-	-

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13-1332-PRO	US	61/838,733	6/24/13	u u	_
13-1332	US	14/309,994	6/20/14	12/8/15	9,205,556
13-1333-PRO	US	61/838,735	6/24/13	_	_
13-1333	US	14/191,819	2/27/14	_	_
13-1333-US-DIV	US	15/341,475	11/2/16	V=	v-

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

A notary public or other officer completing this certificate ve to which this certificate is attached, and not the truthfulnes	erifies only the identity of the individual who signed the document as, accuracy, or validity of that document.
State of California	
County of Santa Clara	
On Ocholox 35, 257 before me,	Candace Chow Notary Public
Date	Here Insert Name and Title of the Officer
personally appeared	iah Chan
	Name(s) of Signer(s)
	<u> </u>
to the within instrument and acknowledged to me the	nature(s) on the instrument the person(s), or the entity
CANDACE CHOW Notary Public - California Santa Clara County Commission # 2187100 My Comm. Expires Apr 15, 2021	I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct. WITNESS my hand and official seal.
Place Natary Seal and/or Stamp Above	Signature Signature of Notary Public
•	deter alteration of the document or
	form to an unintended document.
Description of Attached Document Title or Type of Document:	
Document Date:	Number of Pages:
Signer(s) Other Than Named Above:	
Capacity(ies) Claimed by Signer(s)	
Signer's Name:	Signer's Name:
☐ Corporate Officer — Title(s):	☐ Corporate Officer — Title(s):
☐ Partner — ☐ Limited ☐ General	□ Partner - □ Limited □ General
☐ Individual ☐ Attorney in Fact	☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian of Conservator	☐ Trustee ☐ Guardian of Conservator☐ Other:
Other: Signer is Representing:	
	Signal property.

CARRELL BARRELL BARREL

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ACKNOWLEDGMENT

On Nov 13, 2017 before me, Scutt Crowell, Notary Public (insert name and title of the officer)

personally appeared <u>Soft Heileson</u>, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature (Seal)

A notary public or other officer completing this

SCOTT WILLIAM CROWELI.
Notary Public – California
Santa Clara County
Commission # 2205711
My Comm. Expires Jul 17, 2021

PATENT REEL: 044547 FRAME: 0583

RECORDED: 01/05/2018