505687054 09/24/2019

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5733864

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JESSICA LEARY	08/22/2019
JONATHON STAFF	08/22/2019
JOHN LOGAN ANDERSON	09/12/2019
MAX MEYERS	08/22/2019
PRATIK PATEL	08/28/2019
ROBIN YANG	08/28/2019
BRADLEY RYAN	09/11/2019
JOSH BERLIN	09/12/2019
TERESA LIN	08/29/2019
STANLEY SHIAO	09/05/2019
MICHAEL MAGNOLI	08/27/2019
CHAU-YAN WANG	09/06/2019
CHRISTOPHER FRY	08/22/2019

RECEIVING PARTY DATA

Name:	GM CRUISE HOLDINGS LLC
Street Address:	1201 BRYANT STREET
City:	SAN FRANCISCO
State/Country:	CALIFORNIA
Postal Code:	94103

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16577914

CORRESPONDENCE DATA

Fax Number: (202)783-3535

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.

Phone: 2027833300

Email: patentdocketing@polsinelli.com

Correspondent Name: GM CRUISE HOLDINGS LLC C/O POLSINELLI

Address Line 1: 1401 EYE STREET NW

PATENT

505687054 REEL: 050469 FRAME: 0480

Address Line 4: WAS	WASHINGTON, D.C. 20005	
ATTORNEY DOCKET NUMBER: 102397-635184_P100208US02		
NAME OF SUBMITTER:	NANCE S. PITZER	
SIGNATURE:	/Nance S. Pitzer/	
DATE SIGNED:	09/24/2019	

Total Attachments: 13

source=102397-635184-Assignments#page1.tif source=102397-635184-Assignments#page2.tif source=102397-635184-Assignments#page3.tif source=102397-635184-Assignments#page5.tif source=102397-635184-Assignments#page6.tif source=102397-635184-Assignments#page7.tif source=102397-635184-Assignments#page8.tif source=102397-635184-Assignments#page9.tif source=102397-635184-Assignments#page10.tif source=102397-635184-Assignments#page11.tif source=102397-635184-Assignments#page12.tif source=102397-635184-Assignments#page13.tif

> PATENT REEL: 050469 FRAME: 0481

Jessica LEARY

Full name

DATENIT ACCIZINMENT

PATENT ASSIGNMENT	Docket No: P100208-US-01
the subject matter ("INVENTION") disclo-	m the original inventor or an original joint inventor of sed and/or claimed in a patent application entitled FONOMOUS VEHICLE BEHAVIOR IN MOBILE hich:
associated with Customer N on September 12, 2019 and g following Office US - Unit	nereby authorizes, and requests, any practitioner lo. 161860 to insert here in parentheses (filed given Application No. 16/569,488 by the led States Patent and Trademark Office) this ion No., filing date, and Office, when known.
☐ was filed on the following Office "	and was given Application No by
("ASSIGNEE"), is entitled to, and is desired and interest, including the right of priority, other applications and patents derived there	If of itself and its successors and assigns ous of acquiring, the entire and exclusive rights, title in the INVENTION and the APPLICATION (and all efrom, such as continuing applications, in whole or in tries, and all foreign countries ("APPLICATION")
ASSIGNOR, the ASSIGNOR hereby sells,	title and interest, including the right of priority, in the
prosecution of the APPLICATION (and Al	estruments and documents required for the making and PPLICATION DERIVATIVES), for litigation and for the purpose of protecting and perfecting title N DERIVATIVES).
Cocusioned by: Inventorios Signature	8/22/2019 Date

Page 1 of 1

San Francisco, California

Full name

DATENIT ACCIZINMENT

	PATENT ASSIGNMENT	Docket No: P100208-US-01
the subject market "REAL-TIMI	atter ("INVENTION") disclosed a	ne original inventor or an original joint inventor of and/or claimed in a patent application entitled OMOUS VEHICLE BEHAVIOR IN MOBILE
Ճ	associated with Customer No. 16 on September 12, 2019 and given following Office US - United St	by authorizes, and requests, any practitioner 51860 to insert here in parentheses (filed Application No. 16/569,488 by the states Patent and Trademark Office) this No., filing date, and Office, when known.
	was filed on and the following Office "	was given Application No by".
GM Cruise Holdings LLC, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to, and is desirous of acquiring, the entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES")). For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and APPLICATION DERIVATIVES). ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of the APPLICATION (and APPLICATION DERIVATIVES), for litigation regarding letters patent derived therefrom, and for the purpose of protecting and perfecting title to the APPLICATION (and APPLICATION DERIVATIVES).		
Docubigned by: Jonathon		8/22/2019
Trentisent	~	Date See Forming Collisionsis
Jonathon S'	LAFF	San Francisco, California

Page 1 of 1

PATENT ASSIGNMENT

I, <u>John Logan Anderson</u>, ("ASSIGNOR") am the original inventor or an original joint inventor of the subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "<u>REAL-TIME VISUALIZATION OF AUTONOMOUS VEHICLE BEHAVIOR IN MOBILE APPLICATIONS</u>" ("APPLICATION"), which:

\boxtimes	will be filed. ASSIGNOR hereby authorizes, and requests associated with Customer No. 161860 to insert here in par	entheses (filed
	on September 12, 2019 and given Application No. 16/569,48	8 by the
	following Office US - United States Patent and Trademar	k Office) this
	APPLICATION's Application No., filing date, and Office	, when known.
	was filed on and was given Application Nother following Office " ".	o by

GM Cruise Holdings LLC, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to, and is desirous of acquiring, the entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES")).

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and APPLICATION DERIVATIVES).

ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of the APPLICATION (and APPLICATION DERIVATIVES), for litigation regarding letters patent derived therefrom, and for the purpose of protecting and perfecting title to the APPLICATION (and APPLICATION DERIVATIVES).

Mur. Lopan Anderson	9/12/2019	
John Logan Anderson Inventor's Signature	Date	
John Logan ANDERSON	San Francisco, California	
Full name	Inventor's Residence	

Max MEYERS

Full name

DATENIT ACCIZINMENT

	PATENT ASSIGNMENT	Docket No: P10	0208-US-01
the subject market "REAL-TIMI	atter ("INVENTION") disclosed ar	original inventor or an original joint in ad/or claimed in a patent application e	entitled
፟	associated with Customer No. 16 on September 12, 2019 and given a following Office US - United Sta	r authorizes, and requests, any practiti 1860 to insert here in parentheses (file Application No. 16/569,488 by the stes Patent and Trademark Office) this bo, filing date, and Office, when know	ed he s
	was filed on and v the following Office "	vas given Application No	by
("ASSIGNEE and interest, i other applicat	(""), is entitled to, and is desirous of neluding the right of priority, in the ions and patents derived therefrom or the United States, its territories, a	tself and its successors and assigns acquiring, the entire and exclusive right in acquiring, the entire and exclusive right in the application in which all foreign countries ("APPLICATION and all foreign countries ("APPLICATION).	ON (and all whole or in
ASSIGNOR, ASSIGNOR'	the ASSIGNOR hereby sells, assig	receipt of which is hereby acknowled ns and transfers to the ASSIGNEE, and interest, including the right of prior LICATION DERIVATIVES).	•
prosecution o regarding lett	f the APPLICATION (and APPLIC	nents and documents required for the CATION DERIVATIVES), for litigat or the purpose of protecting and perfective RIVATIVES).	ion
Max Mey		8/22/2019	
-Inventored	Mgnature	Date	

Page 1 of 1

Oakland, California

Pratik PATEL

Full name

	PATENT ASSIGNMENT	Docket No: P100208-U	S-01
the subject ma	tter ("INVENTION") disclosed an	iginal inventor or an original joint inventor of d/or claimed in a patent application entitled DMOUS VEHICLE BEHAVIOR IN MOBIL	
X	associated with Customer No. 16 on September 12, 2019 and given a following Office US - United Sta	authorizes, and requests, any practitioner 1860 to insert here in parentheses (filed Application No. 16/569,488 by the tes Patent and Trademark Office) this o., filing date, and Office, when known.	
	was filed on and v	vas given Application No by	
and interest, is other applicat	ncluding the right of priority, in the ions and patents derived therefrom, r the United States, its territories, a	acquiring, the entire and exclusive rights, tit INVENTION and the APPLICATION (and such as continuing applications, in whole or and all foreign countries ("APPLICATION	lall
part, in and fo DERIVATIVE	r the United States, its territories, a ES")). od and valuable consideration, the		
	entire and exclusive rights, title at and the APPLICATION (and APP	nd interest, including the right of priority, in LICATION DERIVATIVES).	the
prosecution of regarding lette	the APPLICATION (and APPLIC	nents and documents required for the making CATION DERIVATIVES), for litigation or the purpose of protecting and perfecting tite RIVATIVES).	
Pratikbliai	Patel	8/28/2019	
Treemore:		Date	

Page 1 of 1

San Francisco, California

Robin YANG Full name

	PATENT ASSIGNMENT	Docket No: P100208-US-01
the subject ma	itter ("INVENTION") disclosed and	iginal inventor or an original joint inventor of land in a patent application entitled MOUS VEHICLE BEHAVIOR IN MOBILE
\(\times\)	associated with Customer No. 161 on September 12, 2019and given A following Office US - United State	authorizes, and requests, any practitioner 860 to insert here in parentheses (filed pplication No. 16/569,488 by the es Patent and Trademark Office) this ., filing date, and Office, when known.
	was filed on and w the following Office "	as given Application No by
("ASSIGNEE and interest, is other applicate part, in and for DERIVATIVE For gother ASSIGNOR," ASSIGNOR'S	neluding the right of priority, in the ions and patents derived therefrom, in the United States, its territories, and ES")). od and valuable consideration, the the ASSIGNOR hereby sells, assignentire and exclusive rights, title and	acquiring, the entire and exclusive rights, title INVENTION and the APPLICATION (and all such as continuing applications, in whole or in ad all foreign countries ("APPLICATION" receipt of which is hereby acknowledged by the is and transfers to the ASSIGNEE, d interest, including the right of priority, in the
ASSIC prosecution of regarding letter	the APPLICATION (and APPLIC	ents and documents required for the making and ATION DERIVATIVES), for litigation rethe purpose of protecting and perfecting title
Kobin Yana Insuranteriore	signature	8/28/2019 Date

Page 1 of 1

San Francisco, California

Docket No: P100208-US-01

PATENT ASSIGNMENT

I. <u>Bradley Ryan</u>, ("ASSIGNOR") am the original inventor or an original joint inventor of the subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "<u>REAL-TIME VISUALIZATION OF AUTONOMOUS VEHICLE BEHAVIOR IN MOBILE APPLICATIONS</u>" ("APPLICATION"), which:

\boxtimes	will be filed. ASSIGNO	R hereby authorizes, and requests, any pra	ctitioner
	associated with Customer	r No. 161860 to insert here in parentheses	(filed
	on September 12, 2019 an	d given Application No. 16/569,488	by the
	following Office US - U	nited States Patent and Trademark Office)	this
	APPLICATION's Applic	cation No., filing date, and Office, when k	nown.
	was filed on	and was given Application No	by
	the following Office "		

GM Cruise Holdings LLC, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to, and is desirous of acquiring, the entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES")).

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and APPLICATION DERIVATIVES).

ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of the APPLICATION (and APPLICATION DERIVATIVES), for litigation regarding letters patent derived therefrom, and for the purpose of protecting and perfecting title to the APPLICATION (and APPLICATION DERIVATIVES).

Bradley Ryan	9/11/2019
Inventor's Signature	Date 300 Berry St. 1309, San Francisco Ca
Bradley RYAN	94158
Full name	Inventor's Residence

PATENT ASSIGNMENT

I, <u>Josh Berlin</u>, ("ASSIGNOR") am the original inventor or an original joint inventor of the subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "<u>REAL-TIME VISUALIZATION OF AUTONOMOUS VEHICLE BEHAVIOR IN MOBILE APPLICATIONS</u>" ("APPLICATION"), which:

\boxtimes	will be filed. ASSIGNOR h	ereby authorizes, and requests, any practiti	oner
	associated with Customer N	o. 161860 to insert here in parentheses (file	ed
	on September 12, 2019 and g	iven Application No. 16/569,488 by the	ne
	following Office US - United	ed States Patent and Trademark Office) this	5
	APPLICATION's Applicati	on No., filing date, and Office, when know	n.
	was filed on	and was given Application No	by
	the following Office "	".	

GM Cruise Holdings LLC, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to, and is desirous of acquiring, the entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES")).

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and APPLICATION DERIVATIVES).

ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of the APPLICATION (and APPLICATION DERIVATIVES), for litigation regarding letters patent derived therefrom, and for the purpose of protecting and perfecting title to the APPLICATION (and APPLICATION DERIVATIVES).

Josh Berlin	9/12/2019	
Inventor's Signature	Date	
Josh BERLIN	San Francisco, CA	
Full name	Inventor's Residence	

Page 1 of 1

Docket No: P100208-US-01

PATENT ASSIGNMENT

I, <u>Teresa Lin</u>. ("ASSIGNOR") am the original inventor or an original joint inventor of the subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "<u>REAL-TIME VISUALIZATION OF AUTONOMOUS VEHICLE BEHAVIOR IN MOBILE APPLICATIONS</u>" ("APPLICATION"), which:

\boxtimes	will be filed. ASSIGNOR here	by authorizes, and requests, any pr	actitioner
	associated with Customer No. 1 on September 12, 2019 and given	61860 to insert here in parenthese a Application No. 16/569,488	s (filed by the
		States Patent and Trademark Office No., filing date, and Office, when I	
	was filed on and the following Office "	l was given Application No	by

GM Cruise Holdings LLC, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to, and is desirous of acquiring, the entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES")).

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and APPLICATION DERIVATIVES).

ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of the APPLICATION (and APPLICATION DERIVATIVES), for litigation regarding letters patent derived therefrom, and for the purpose of protecting and perfecting title to the APPLICATION (and APPLICATION DERIVATIVES).

	8/29/2019	
Investor's Signature	Date 8/29/2019	
Teresa LIN	San Francisco, CA	
Full name	Inventor's Residence	

Full name

PATENT ASSIGNMENT

the subject matter " <u>REAL-TIME VI</u>	("INVENTION") disclosed	the original inventor or an origina d and/or claimed in a patent applic DNOMOUS VEHICLE BEHAVIOCH:	ation entitled
ass on fol	will be filed. ASSIGNOR hereby authorizes, and requests, any practitioner associated with Customer No. 161860 to insert here in parentheses (filed on September 12, 2019 and given Application No. 16/569,488 by the following Office US - United States Patent and Trademark Office) this APPLICATION's Application No., filing date, and Office, when known.		
□ wa the	us filed on are following Office "	nd was given Application No	by
("ASSIGNEE"), and interest, incluother applications part, in and for the DERIVATIVES" For good a ASSIGNOR, the ASSIGNOR's entered and interest.	is entitled to, and is desirous ading the right of priority, in and patents derived therefree United States, its territories. (1)). and valuable consideration, ASSIGNOR hereby sells, as tire and exclusive rights, title	of itself and its successors and ass s of acquiring, the entire and exclusion the INVENTION and the APPLICOM, such as continuing applications, and all foreign countries ("APPLICATION of the hereby acknowledges and transfers to the ASSIGN and interest, including the right (APPLICATION DERIVATIVES).	cation (and all ns, in whole or in ELICATION) nowledged by the NEE, of priority, in the
prosecution of the regarding letters p	e APPLICATION (and APP	truments and documents required for the purpose of protecting and DERIVATIVES).	litigation
Stanley Shiad Inventor's Sign		9/5/2019 Date San Francisco, CA	

Inventor's Residence

Insentor's Signature

Michael MAGNOLI

Full name

PATENT ASSIGNMENT

PATENT A	SSIGNMENT	Docket No: P100208-US-01
of the subject matter ("INVE "REAL-TIME VISUALIZA APPLICATIONS" ("APPLICATIONS")	ENTION") disclosed and/o TION OF AUTONOMO! CATION"), which:	original inventor or an original joint inventor or claimed in a patent application entitled US VEHICLE BEHAVIOR IN MOBILE
associated wi _{OB} September following Ofl	th Customer No. 161860 the Customer No. 161860 the 12, 2019 and given Applicated US - United States Parts of the Parts of	to insert here in parentheses (filed cation No. 16/569,488 by the ratent and Trademark Office) this ing date, and Office, when known.
☐ was filed on _ the following	Office " and was gi	iven Application No by
("ASSIGNEE"), is entitled to and interest, including the rig other applications and patent	o, and is desirous of acqui ght of priority, in the INV is derived therefrom, such	and its successors and assigns tiring, the entire and exclusive rights, title /ENTION and the APPLICATION (and all as continuing applications, in whole or in ll foreign countries ("APPLICATION")
ASSIGNOR, the ASSIGNO	R hereby sells, assigns an clusive rights, title and int	ipt of which is hereby acknowledged by the nd transfers to the ASSIGNEE, terest, including the right of priority, in the ATION DERIVATIVES).
prosecution of the APPLICA	TION (and APPLICATION) and for the	and documents required for the making and ON DERIVATIVES), for litigation epurpose of protecting and perfecting title ATIVES).
BacuSigned by: Michael Magnoli	8/2	27/2019

Date

San Francisco, CA

Full name

PATENT ASSIGNMENT

of the subject "REAL-TIME	matter ("INVENTION") disclo	am the original inventor or an original joint inventor osed and/or claimed in a patent application entitled DNOMOUS VEHICLE BEHAVIOR IN MOBILE ch:	
	will be filed. ASSIGNOR hereby authorizes, and requests, any practitioner associated with Customer No. 161860 to insert here in parentheses (filed on September 12, 2019 and given Application No. 16/569,488 by the following Office US - United States Patent and Trademark Office) this APPLICATION's Application No., filing date, and Office, when known.		
	was filed on ar the following Office "	nd was given Application No by".	
("ASSIGNEE and interest, in other application	"), is entitled to, and is desirous neluding the right of priority, in ions and patents derived therefor the United States, its territories."	of itself and its successors and assigns s of acquiring, the entire and exclusive rights, title the INVENTION and the APPLICATION (and all rom, such as continuing applications, in whole or in es, and all foreign countries ("APPLICATION")	
ASSIGNOR, 1 ASSIGNOR's	the ASSIGNOR hereby sells, as sentire and exclusive rights, title	the receipt of which is hereby acknowledged by the ssigns and transfers to the ASSIGNEE, le and interest, including the right of priority, in the APPLICATION DERIVATIVES).	
ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of the APPLICATION (and APPLICATION DERIVATIVES), for litigation regarding letters patent derived therefrom, and for the purpose of protecting and perfecting title to the APPLICATION (and APPLICATION DERIVATIVES).			
Docusigned by: (Lan-Yan Inventor's S	Wang	9/6/2019	
Chau-Yan V	agnature WANG	Date San Francisco, California	

Inventor's Residence

Docket No: P100208-US-01

PATENT ASSIGNMENT

of the subject "REAL-TIMI	istopher Fry. ("ASSIGNOR") am the original inventor or an original joint inventor matter ("INVENTION") disclosed and/or claimed in a patent application entitled EVISUALIZATION OF AUTONOMOUS VEHICLE BEHAVIOR IN MOBILE DNS" ("APPLICATION"), which:
X	will be filed. ASSIGNOR hereby authorizes, and requests, any practitioner associated with Customer No. 161860 to insert here in parentheses (filed on September 12, 2019 and given Application No. 16/569,488 by the following Office US - United States Patent and Trademark Office) this APPLICATION's Application No., filing date, and Office, when known.
	was filed on and was given Application No by the following Office "".
("ASSIGNEE and interest, i other applicat	ruise Holdings LLC, on behalf of itself and its successors and assigns ("), is entitled to, and is desirous of acquiring, the entire and exclusive rights, title neluding the right of priority, in the INVENTION and the APPLICATION (and all ions and patents derived therefrom, such as continuing applications, in whole or in or the United States, its territories, and all foreign countries ("APPLICATION ES")).
ASSIGNOR, ASSIGNOR'S	od and valuable consideration, the receipt of which is hereby acknowledged by the the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, sentire and exclusive rights, title and interest, including the right of priority, in the and the APPLICATION (and APPLICATION DERIVATIVES).
prosecution of regarding letter	GNOR agrees to execute all instruments and documents required for the making and full the APPLICATION (and APPLICATION DERIVATIVES), for litigation ers patent derived therefrom, and for the purpose of protecting and perfecting title CATION (and APPLICATION DERIVATIVES).

Christopher FRY

Christopher FRY

Full name

8/22/2019

8/22/2019

Date

388 Beale St. Apt 1314

San Francisco, CA 94105

Inventor's Residence