506967350 11/09/2021

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT7014188

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
XIAOBIN MA	11/05/2021
XUN CHENG	11/05/2021
VIRAL SHAH	11/05/2021
ANJAN KUMAR AMIRISHETTY	11/05/2021

RECEIVING PARTY DATA

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

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	17521213

CORRESPONDENCE DATA

Fax Number: (908)654-7866

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: (908) 518-6382

Email: assignment@lernerdavid.com

Correspondent Name: LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP

Address Line 1: 20 COMMERCE DR.

Address Line 4: CRANFORD, NEW JERSEY 07016

ATTORNEY DOCKET NUMBER:	GOOGLE 3.0F-3547	
NAME OF SUBMITTER:	MELINDA C. CORMIER	
SIGNATURE:	/Melinda C. Cormier/	
DATE SIGNED:	11/09/2021	

Total Attachments: 4

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PATENT 506967350 REEL: 058058 FRAME: 0599

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PATENT REEL: 058058 FRAME: 0600

Docket Number (Optional)

Additivited of FATENT ACT Electron	GOOGLE 3.0F-3547
WHEREAS, I, Xiaobin Ma of Fremont, California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Columnar Cache Query Using Hybrid Query Execution Plan" (hereafter "Patent Application"),	
WHEREAS (if the left box is checked), the Patent Application was Trademark Office on, Application Number	
X WHEREAS (if the left box is checked), the Patent Application na Xiaobin Ma, Xun Cheng, Viral Shah, and Anjan Kumar Amirishetty (and who Krumholz & Mentlik, LLP, to insert in here in brackets [Application No. 17/5] the application number and filing date of the application when known), and	mes the following inventors: ereas I hereby authorize Lerner, David, Littenberg, 521,213, filed on November 8, 2021]
WHEREAS, <u>Google LLC</u> , incorporated or otherwise formed in <u>Documentary Parkway</u> : <u>Mountain View, CA 94043</u> (hereafter, the "assigne is desirous of memorializing its acquisition further herein, the entire right, the contraction of the contra	e") is desirous of acquiring, or has acquired and
NOW, THEREFORE, for good and valuable consideration the re as follows. I agree to assign, and hereby do assign, to the assignee my exassigned Applications in the United States of America and all other country Patent Application, including any and all inventions, discoveries and other continuation, continuation-in-part, substitute, reissue, re-examination or ot Patent Application pursuant to any law or treaty, and any patent issuing from the assign, to assignee the right to claim such priority or benefit. I have no obligation to convey, my rights in the Assigned Applications to a third party Trademark Office, and any other governmental agency in the world, to issue Assigned Applications and to record assignee's ownership thereof. At assigned as testimony, as may be reasonably required to evidence or protect assignee may assign or transfer all or part of its rights set forth herein in it affix its signature to this document as well as any other indicia of its acceptive herein is unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision.	ntire right, title and interest in and to the ries, where "Assigned Applications" means the subject matter described therein, any divisional, her application claiming priority or benefit to the om the foregoing. I agree to assign, and hereby the treviously conveyed, nor am I aware of an y. I hereby authorize the U.S. Patent and use to assignee all patents resulting from the signee's reasonable request I agree, without nee's expense and to provide other cooperation, assignee's rights in the Assigned Applications. Is sole discretion. I agree that the assignee may stance of the provisions hereof. If any provision the full extent permissible by law and the
	Signed by:
11/5/2021	ol 1
(Date)	(Signature)

Docket Number (Optional)

	GOOGLE 3.0F-3547
WHEREAS, I, <u>Xun Cheng</u> of <u>Dublin. California</u> , have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Columnar Cache Query Using Hybrid Query Execution Plant (hereafter "Patent Application"),	
WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on, Application Number, and	
X WHEREAS (if the left box is checked), the Patent Application na Xiaobin Ma, Xun Cheng, Viral Shah, and Anjan Kumar Amirishetty (and wh Krumholz & Mentlik, LLP, to insert in here in brackets [Application No17/s] the application number and filing date of the application when known), and	ereas I hereby authorize Lerner, David, Littenberg.
WHEREAS, <u>Google LLC</u> , incorporated or otherwise formed in <u>Delaware</u> and having a place of business at <u>1600 Amphitheatre Parkway: Mountain View, CA 94043</u> (hereafter, the "assignee") is desirous of acquiring, or has acquired and is desirous of memorializing its acquisition further herein, the entire right, title and interest in same;	
NOW, THEREFORE, for good and valuable consideration the reas follows. I agree to assign, and hereby do assign, to the assignee my e Assigned Applications in the United States of America and all other countreatent Application, including any and all inventions, discoveries and other continuation, continuation-in-part, substitute, reissue, re-examination or of Patent Application pursuant to any law or treaty, and any patent issuing freedo assign, to assignee the right to claim such priority or benefit. I have no obligation to convey, my rights in the Assigned Applications to a third party Trademark Office, and any other governmental agency in the world, to iss Assigned Applications and to record assignee's ownership thereof. At assigned remuneration, to execute and deliver documents prepared at assign	ntire right, title and interest in and to the ries, where "Assigned Applications" means the subject matter described therein, any divisional, her application claiming priority or benefit to the om the foregoing. I agree to assign, and hereby the previously conveyed, nor am I aware of an experience of the converse of the U.S. Patent and use to assignee all patents resulting from the signee's reasonable request I agree, without nee's expense and to provide other cooperation,
such as testimony, as may be reasonably required to evidence or protect Assignee may assign or transfer all or part of its rights set forth herein in it affix its signature to this document as well as any other indicia of its accepterein is unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision.	s sole discretion. I agree that the assignee may tance of the provisions hereof. If any provision the full extent permissible by law and the
Assignee may assign or transfer all or part of its rights set forth herein in it affix its signature to this document as well as any other indicia of its accepterein is unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision.	s sole discretion. I agree that the assignee may tance of the provisions hereof. If any provision the full extent permissible by law and the
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Docket Number (Optional)

Addid Mile II of TATE III AT E BOATION	GOOGLE 3.0F-3547	
WHEREAS, I, <u>Viral Shah</u> of <u>Cupertino</u> , <u>California</u> , have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Columnar Cache Query Using Hybrid Query Execution Plan" (hereafter "Patent Application"),		
WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on, Application Number, and		
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WHEREAS, <u>Google LLC</u> , incorporated or otherwise formed in <u>Documentary</u> Amphitheatre Parkway; <u>Mountain View, CA 94043</u> (hereafter, the "assigne is desirous of memorializing its acquisition further herein, the entire right, the contraction of the contraction	e") is desirous of acquiring, or has acquired and	
NOW, THEREFORE, for good and valuable consideration the re as follows. I agree to assign, and hereby do assign, to the assignee my exassigned Applications in the United States of America and all other country Patent Application, including any and all inventions, discoveries and other continuation, continuation-in-part, substitute, reissue, re-examination or ot Patent Application pursuant to any law or treaty, and any patent issuing from the assignee the right to claim such priority or benefit. I have no obligation to convey, my rights in the Assigned Applications to a third party Trademark Office, and any other governmental agency in the world, to issigned Applications and to record assignee's ownership thereof. At assigned Applications and to record assignee's ownership thereof. At assignet as testimony, as may be reasonably required to evidence or protect assignee may assign or transfer all or part of its rights set forth herein in it affix its signature to this document as well as any other indicia of its accept herein is unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision.	ntire right, title and interest in and to the lies, where "Assigned Applications" means the subject matter described therein, any divisional, ther application claiming priority or benefit to the long the foregoing. I agree to assign, and hereby the previously conveyed, nor am I aware of an previously from the signee's reasonable request I agree, without nee's expense and to provide other cooperation, assignee's rights in the Assigned Applications. I agree that the assignee may tance of the provisions hereof. If any provision the full extent permissible by law and the	
11/5/2021	igned by:	
(Date)	SF75947404(Signature)	

Docket Number (Optional)

	GOOGLE 3.0F-3547
	mont, California, have invented or discovered inventions or he patent application entitled "Columnar Cache Query Using tion"),
WHEREAS (if the left box is checked), the Pate Trademark Office on, Application Nur	ent Application was filed with the U.S. Patent and mber, and
X WHEREAS (if the left box is checked), the Pate Xiaobin Ma, Xun Cheng, Viral Shah, and Anjan Kumar Am Krumholz & Mentlik, LLP, to insert in here in brackets [Apt the application number and filing date of the application with the control of the control of the control of the application with the control of the cont	nirishetty (and whereas I hereby authorize Lerner, David, Littenberg, plication No. <u>17/521,213</u> , filed on <u>November 8, 2021</u>]
WHEREAS, <u>Google LLC</u> , incorporated or other <u>Amphitheatre Parkway</u> ; <u>Mountain View</u> , <u>CA 94043</u> (herea is desirous of memorializing its acquisition further herein,	rwise formed in <u>Delaware</u> and having a place of business at <u>1600</u> after, the "assignee") is desirous of acquiring, or has acquired and , the entire right, title and interest in same;
as follows. I agree to assign, and hereby do assign, to the Assigned Applications in the United States of America are Patent Application, including any and all inventions, discontinuation, continuation-in-part, substitute, reissue, repatent Application pursuant to any law or treaty, and any do assign, to assignee the right to claim such priority or be obligation to convey, my rights in the Assigned Application Trademark Office, and any other governmental agency in Assigned Applications and to record assignee's ownersh further remuneration, to execute and deliver documents youth as testimony, as may be reasonably required to evil Assignee may assign or transfer all or part of its rights seaffix its signature to this document as well as any other in herein is unenforceable, the requirements of the provisio	Insideration the receipt of which is hereby acknowledged, I agree the assignee my entire right, title and interest in and to the and all other countries, where "Assigned Applications" means the overies and other subject matter described therein, any divisional, examination or other application claiming priority or benefit to the patent issuing from the foregoing. I agree to assign, and hereby benefit. I have not previously conveyed, nor am I aware of an one to a third party. I hereby authorize the U.S. Patent and in the world, to issue to assignee all patents resulting from the hip thereof. At assignee's reasonable request I agree, without prepared at assignee's expense and to provide other cooperation, idence or protect assignee's rights in the Assigned Applications. Let forth herein in its sole discretion. I agree that the assignee may indicial of its acceptance of the provisions hereof. If any provision in shall remain to the full extent permissible by law and the the extent possible, with a provision most closely reflecting the
11/5/2021	DocuSigned by:
(Date)	(Signature)

PATENT REEL: 058058 FRAME: 0604

RECORDED: 11/09/2021