10/18/2021 506926254

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6973090

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
HOSSEIN AHMADI	09/30/2021
GUANG CHENG	09/30/2021
YANNIS SISMANIS	10/13/2021
HUONG THI THU PHAN	09/30/2021
SHIYU XIE	10/01/2021
LEO CHEN	10/05/2021
ZEWEN ZHANG	09/30/2021
JING JING LONG	10/02/2021
AMIR HOSSEIN HORMATI	09/30/2021

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:	17501413

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) 654-5000

Email: assignment@lernerdavid.com

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

Address Line 1: 20 COMMERCE DR.

Address Line 4: CRANFORD, NEW JERSEY 07016

ATTORNEY DOCKET NUMBER:	GOOGLE 3.0F-3433
NAME OF SUBMITTER:	LIZ SEMON

PATENT REEL: 057815 FRAME: 0878 506926254

SIGNATURE:	/Liz Semon/
DATE SIGNED:	10/18/2021
Total Attachments: 9	
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PATENT REEL: 057815 FRAME: 0879

Addigniment of Parent Air Eloanon	GOOGLE 3.0F-3433	
WHEREAS, I, <u>Hossein Ahmadi</u> of <u>Seattle</u> , <u>Washington</u> , have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Data Warehouse Indexed String Token Search" (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		
WHEREAS (if the left box is checked), the Patent Application names the following inventors: Hossein Ahmadi, Guang Cheng, Yannis Sismanis, Huong Thi Thu Phan, Shiyu Xie, Leo Chen, Zewen Zhang, Jing Jing Lon and Amir Hossein Hormati (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application No, filed on] the application number and filing date of the application when known), and		
WHEREAS, <u>Google LLC</u> , incorporated or otherwise formed in <u>Do Amphitheatre Parkway; Mountain View, CA 94043</u> (hereafter, the "assigned is desirous of memorializing its acquisition further herein, the entire right, the entire right is the entire right.	ee") is desirous of acquiring, or has acquired and	
NOW, THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged, I agree as follows. I agree to assign, and hereby do assign, to the assignee my entire right, title and interest in and to the Assigned Applications in the United States of America and all other countries, where "Assigned Applications" means the Patent Application, including any and all inventions, discoveries and other subject matter described therein, any divisional, continuation, continuation-in-part, substitute, reissue, re-examination or other application claiming priority or benefit to the Patent Application pursuant to any law or treaty, and any patent issuing from the foregoing. I agree to assign, and hereby do assign, to assignee the right to claim such priority or benefit. I have not previously conveyed, nor am I aware of an obligation to convey, my rights in the Assigned Applications to a third party. I hereby authorize the U.S. Patent and Trademark Office, and any other governmental agency in the world, to issue to assignee all patents resulting from the Assigned Applications and to record assignee's ownership thereof. At assignee's reasonable request I agree, without further remuneration, to execute and deliver documents prepared at assignee's expense and to provide other cooperation, such as testimony, as may be reasonably required to evidence or protect assignee's rights in the Assigned Applications. Assignee may assign or transfer all or part of its rights set forth herein in its sole discretion. I agree that the assignee may affix its signature to this document as well as any other indicia of its acceptance of the provisions hereof. If any provision herein is unenforceable, the requirements of the provision shall remain to the full extent permissible by law and the offending portions thereof shall be deemed replaced, to the extent possible, with a provision most closely reflecting the purpose of the offending provision.		
9/30/2021	Signed by:	
(Date)	5D36532F4C3 (Signature)	

AGGIGNMENT OF FATENT AT LIGATION	GOOGLE 3.0F-3433	
WHEREAS, I, <u>Guang Cheng</u> of <u>Sammamish</u> , <u>Washington</u> , have invented or discovered inventions or discoveries the subject matter of which is described in the patent application entitled "Data Warehouse Indexed String Token Search" (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		
WHEREAS (if the left box is checked), the Patent Application na Hossein Ahmadi, Guang Cheng, Yannis Sismanis, Huong Thi Thu Phan, Shand Amir Hossein Hormati (and whereas I hereby authorize Lerner, David, here in brackets [Application No, filed on of the application when known), and	niyu Xie, Leo Chen, Zewen Zhang, Jing Jing Long, Littenberg, Krumholz & Mentlik, LLP, to insert in	
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	ee") is desirous of acquiring, or has acquired and	
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9/30/2021	Signed by:	
(Date)		

AGGIGNMENT OF FATENT AFTERMENT	GOOGLE 3.0F-3433	
WHEREAS, I, <u>Yannis Sismanis</u> of <u>Campbell, California</u> , have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Data Warehouse Indexed String Token Search" (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 Hossein Ahmadi, Guang Cheng, Yannis Sismanis, Huong Thi Thu Phan, Shand Amir Hossein Hormati (and whereas I hereby authorize Lerner, David, here in brackets [Application No, filed on of the application when known), and	niyu Xie, Leo Chen, Zewen Zhang, Jing Jing Long, Littenberg, Krumholz & Mentlik, LLP, to insert in	
WHEREAS, <u>Google LLC</u> , incorporated or otherwise formed in <u>Doarn Amphitheatre Parkway; Mountain View, CA 94043</u> (hereafter, the "assigned is desirous of memorializing its acquisition further herein, the entire right, the entire right, the control of the contro	ee") is desirous of acquiring, or has acquired and	
NOW, THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged, I agree as follows. I agree to assign, and hereby do assign, to the assignee my entire right, title and interest in and to the Assigned Applications in the United States of America and all other countries, where "Assigned Applications" means the Patent Application, including any and all inventions, discoveries and other subject matter described therein, any divisional, continuation, continuation-in-part, substitute, reissue, re-examination or other application claiming priority or benefit to the Patent Application pursuant to any law or treaty, and any patent issuing from the foregoing. I agree to assign, and hereby do assign, to assignee the right to claim such priority or benefit. I have not previously conveyed, nor am I aware of an obligation to convey, my rights in the Assigned Applications to a third party. I hereby authorize the U.S. Patent and Trademark Office, and any other governmental agency in the world, to issue to assignee all patents resulting from the Assigned Applications and to record assignee's ownership thereof. At assignee's reasonable request I agree, without further remuneration, to execute and deliver documents prepared at assignee's expense and to provide other cooperation, such as testimony, as may be reasonably required to evidence or protect assignee's rights in the Assigned Applications. Assignee may assign or transfer all or part of its rights set forth herein in its sole discretion. I agree that the assignee may affix its signature to this document as well as any other indicia of its acceptance of the provisions hereof. If any provision herein is unenforceable, the requirements of the provision shall remain to the full extent permissible by law and the offending portions thereof shall be deemed replaced, to the extent possible, with a provision most closely reflecting the purpose of the offending provision.		
· · · · · · · · · · · · · · · · · · ·	usigned by: Mis Sismamis	
(Date)	DFD03CD54E8 (Signature)	

AGGIGNMENT OF FATENT AT LIGATION	GOOGLE 3.0F-3433	
WHEREAS, I, <u>Huong Thi Thu Phan</u> of <u>Kirkland, Washington</u> , have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Data Warehouse Indexed String Token Search" (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		
WHEREAS (if the left box is checked), the Patent Application names the following inventors: Hossein Ahmadi, Guang Cheng, Yannis Sismanis, Huong Thi Thu Phan, Shiyu Xie, Leo Chen, Zewen Zhang, Jing Jing Long and Amir Hossein Hormati (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application No, filed on] the application number and filing date of the application when known), and		
WHEREAS, <u>Google LLC</u> , incorporated or otherwise formed in <u>Doarn Amphitheatre 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	ee") is desirous of acquiring, or has acquired and	
NOW, THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged, I agree as follows. I agree to assign, and hereby do assign, to the assignee my entire right, title and interest in and to the Assigned Applications in the United States of America and all other countries, where "Assigned Applications" means the Patent Application, including any and all inventions, discoveries and other subject matter described therein, any divisional, continuation, continuation-in-part, substitute, reissue, re-examination or other application claiming priority or benefit to the Patent Application pursuant to any law or treaty, and any patent issuing from the foregoing. I agree to assign, and hereby do assign, to assignee the right to claim such priority or benefit. I have not previously conveyed, nor am I aware of an obligation to convey, my rights in the Assigned Applications to a third party. I hereby authorize the U.S. Patent and Trademark Office, and any other governmental agency in the world, to issue to assignee all patents resulting from the Assigned Applications and to record assignee's ownership thereof. At assignee's reasonable request I agree, without further remuneration, to execute and deliver documents prepared at assignee's expense and to provide other cooperation, such as testimony, as may be reasonably required to evidence or protect assignee's rights in the Assigned Applications. Assignee may assign or transfer all or part of its rights set forth herein in its sole discretion. I agree that the assignee may affix its signature to this document as well as any other indicia of its acceptance of the provisions hereof. If any provision herein is unenforceable, the requirements of the provision shall remain to the full extent permissible by law and the offending portions thereof shall be deemed replaced, to the extent possible, with a provision most closely reflecting the purpose of the offending provision.		
9/30/2021	usigned by:	
(Date)	471E96F944C6 (Signature)	

AGGIGNMENT OF FATENT AT LIGATION	GOOGLE 3.0F-3433	
WHEREAS, I, Shiyu Xie of Issaguah, Washington, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Data Warehouse Indexed String Token Search" (hereafter "Patent Application"),		
WHEREAS (if the left box is checked), the Patent Application was Trademark Office on, Application Number		
WHEREAS (if the left box is checked), the Patent Application names the following inventors: Hossein Ahmadi, Guang Cheng, Yannis Sismanis, Huong Thi Thu Phan, Shiyu Xie, Leo Chen, Zewen Zhang, Jing Jing Long and Amir Hossein Hormati (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application No, filed on] the application number and filing date of the application when known), and		
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	ee") is desirous of acquiring, or has acquired and	
NOW, THEREFORE, for good and valuable consideration the receipt of which is hereby acknowledged, I agree as follows. I agree to assign, and hereby do assign, to the assignee my entire right, title and interest in and to the Assigned Applications in the United States of America and all other countries, where "Assigned Applications" means the Patent Application, including any and all inventions, discoveries and other subject matter described therein, any divisional, continuation, continuation-in-part, substitute, reissue, re-examination or other application claiming priority or benefit to the Patent Application pursuant to any law or treaty, and any patent issuing from the foregoing. I agree to assign, and hereby do assign, to assignee the right to claim such priority or benefit. I have not previously conveyed, nor am I aware of an obligation to convey, my rights in the Assigned Applications to a third party. I hereby authorize the U.S. Patent and Trademark Office, and any other governmental agency in the world, to issue to assignee all patents resulting from the Assigned Applications and to record assignee's ownership thereof. At assignee's reasonable request I agree, without further remuneration, to execute and deliver documents prepared at assignee's expense and to provide other cooperation, such as testimony, as may be reasonably required to evidence or protect assignee's rights in the Assigned Applications. Assignee may assign or transfer all or part of its rights set forth herein in its sole discretion. I agree that the assignee may affix its signature to this document as well as any other indicia of its acceptance of the provisions hereof. If any provision herein is unenforceable, the requirements of the provision shall remain to the full extent permissible by law and the offending portions thereof shall be deemed replaced, to the extent possible, with a provision most closely reflecting the purpose of the offending provision.		
10/1/2021	Signed by:	
(Date)	AEEFF9CD409 (Signature)	

AGGIGNMENT OF FATENT AT LIGATION	GOOGLE 3.0F-3433	
WHEREAS, I, <u>Leo Chen</u> of <u>Seattle, Washington</u> , have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Data Warehouse Indexed String Token Search" (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		
WHEREAS (if the left box is checked), the Patent Application names the following inventors: Hossein Ahmadi, Guang Cheng, Yannis Sismanis, Huong Thi Thu Phan, Shiyu Xie, Leo Chen, Zewen Zhang, Jing Jing Long and Amir Hossein Hormati (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application No, filed on] the application number and filing date of the application when known), and		
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10/5/2021	Signed by:	
(Date)	9FE2ED04460 (Signature)	

AGGIGNMENT OF FATENT AT LIGATION	GOOGLE 3.0F-3433		
WHEREAS, I, <u>Zewen Zhang</u> of <u>Kirkland, Washington</u> , have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Data Warehouse Indexed String Token Search" (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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9/30/2021	ven Zhana		
(Date)	S282D542474 (Signature)		

AGGIGNMENT OF FATENT AT LIGATION	GOOGLE 3.0F-3433	
WHEREAS, I, <u>Jing Jing Long</u> of <u>Kirkland. Washington</u> , have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Data Warehouse Indexed String Token Search" (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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10/2/2021	uSigned by:	
(Date)	1035CEE37456 (Signature)	

RECORDED: 10/18/2021

ASSIGNMENT OF PATENT APPLICATION

Docket Number (Optional)

ASSIGNMENT OF FATENT AFFEIGATION	GOOGLE 3.0F-3433	
WHEREAS, I, <u>Amir Hossein Hormati</u> of <u>Kirkland, Washington</u> , have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "Data Warehouse Indexed String Token Search" (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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9/30/2021		
(Date)	946EB084431 (Signature)	

PATENT REEL: 057815 FRAME: 0888