504794951 02/27/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4841683

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
STEVE CHIEN	02/26/2018
MARK YINAN LI	02/26/2018
MARC ANDREAS SCHAUB	02/23/2018
BENJAMIN JAMES ANDERSON	02/23/2018
JAMES ASPINALL	02/23/2018
ZHOU BAILIANG	02/26/2018
RUWEN HESS	02/26/2018

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
PCT Number:	US1639202

CORRESPONDENCE DATA

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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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ATTORNEY DOCKET NUMBER:	GOOGLE 3.4-2047	
NAME OF SUBMITTER:	KATHLEEN REYNOLDS	
SIGNATURE:	/Kathleen Reynolds/	
DATE SIGNED:	02/27/2018	

PATENT 504794951 REEL: 045046 FRAME: 0702

Total Attachments: 7 source=GOOGLE 3.4-2047 (7014) ASSIGNMENT#page1.tif source=GOOGLE 3.4-2047 (7014) ASSIGNMENT#page2.tif source=GOOGLE 3.4-2047 (7014) ASSIGNMENT#page3.tif source=GOOGLE 3.4-2047 (7014) ASSIGNMENT#page4.tif

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PATENT REEL: 045046 FRAME: 0703

Docket Number (Optional)

ASSIGNMENT OF PATENT APPLICATION GOOGLE 3.4-2047 (U) WHEREAS, I, Steve Chien of San Carlos, California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "IDENTIFYING, PROCESSING AND DISPLAYING DATA POINT CLUSTERS" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on 6/24/2016, Application Number PCT/US2016/039202, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application _] the application number and filing date of the application when known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 94043 (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 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. Steve (liven 2/26/2018 1A48662E673D4E5. (Date) (Signature)

Docket Number (Optional)

GOOGLE 3.4-2047 (U) WHEREAS, I, Mark Yinan Li of San Francisco, California, have invented or discovered inventions or discoveries. the subject matter of which is described in the patent application entitled "IDENTIFYING, PROCESSING AND DISPLAYING DATA POINT CLUSTERS" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on 6/24/2016, Application Number PCT/US2016/039202, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application __] the application number and filing date of the application when No. known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 94043 (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 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. 2/26/2018 ~EF9382833E184F7... (Signature) (Date)

Docket Number (Optional)

GOOGLE 3.4-2047 (U) WHEREAS, I, Marc Schaub of Palo Alto, California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "IDENTIFYING, PROCESSING AND DISPLAYING DATA POINT CLUSTERS" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on 6/24/2016, Application Number PCT/US2016/039202, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application the application number and filing date of the application when No. known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 94043 (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 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. -DocuSioned by: 2/23/2018 -045DC6AD02244EC (Date) (Signature)

Docket Number (Optional)

GOOGLE 3.4-2047 (U) WHEREAS, I, Benjamin Anderson of Seattle, Washington, have invented or discovered inventions or discoveries. the subject matter of which is described in the patent application entitled "IDENTIFYING, PROCESSING AND DISPLAYING DATA POINT CLUSTERS" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on 6/24/2016, Application Number PCT/US2016/039202, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application the application number and filing date of the application when known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 94043 (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 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. 2/23/2018 B595C2500B5B47C... (Date) (Signature)

Docket Number (Optional)

GOOGLE 3.4-2047 (U) WHEREAS, I, James Aspinall of San Francisco, California, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "IDENTIFYING, PROCESSING AND DISPLAYING DATA POINT CLUSTERS" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on 6/24/2016, Application Number PCT/US2016/039202, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application the application number and filing date of the application when No. known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 94043 (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 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. DocuSigned by: 2/23/2018 9B55BA09C4AF44F (Date) (Signature)

Docket Number (Optional)

GOOGLE 3.4-2047 (U) WHEREAS, I, Zhou Bailiang of Seattle, Washington, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "IDENTIFYING, PROCESSING AND DISPLAYING DATA POINT CLUSTERS" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on 6/24/2016, Application Number PCT/US2016/039202, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application the application number and filing date of the application when No. known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 94043 (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 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. DocuSigned by: 2/26/2018 838341FE3A9B4C0 (Date) (Signature)

Docket Number (Optional)

GOOGLE 3.4-2047 (U) WHEREAS, I, Ruwen Hess of Yarrow Point, Washington, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "IDENTIFYING, PROCESSING AND DISPLAYING DATA POINT CLUSTERS" (hereafter "Patent Application"), WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on 6/24/2016, Application Number PCT/US2016/039202, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Mentlik, LLP, to insert in here in brackets [Application __] the application number and filing date of the application when known), and WHEREAS, Google LLC, incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway; Mountain View, CA 94043 (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 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. 2/26/2018 (Date) (Signature)

> PATENT REEL: 045046 FRAME: 0710