Porm PTO-1595 (Rev. 03-11) OMB No. 0651-0027 (exp. 03/31/2015)	U.S. DEPARTMENT OF COMMERCE United States Patent and Trademark Office
RECORDATION FOR	M COVER SHEET
PATENTS	ONLY
To the Director of the U.S. Patent and Trademark Office: Please	record the attached documents or the new address(es) below.
Name of conveying party(les):	2. Name and address of receiving party(ies)
Tianhao Qiu (04/18/2013), Manpreet Singh	Name: Google Inc.
(04/18/2013), Halfeng Jiang (05/02/2013), Ashish Gupta (04/18/2013),	
Additional name(a) of conveying party(les) attached? X Yes No	Internal Address:
3. Nature of conveyance/Execution Date(6):	
Execution Date(s): In parentheses after inventor name	1600 Amphitheatre Parkway
x Assignment Merger Change of Name	
Security Agreement Joint Research Agreement	City: Mountain View
Government Interest Assignment	State: California
Executive Order 9424, Confirmatory License	Country: United States of America Zip: 94043
Other	Additional name(s) & address(es) Yes X No attached?
A. Patent Application No.(s) 14/036,110 Additional numbers attached?	6. Patent No.(s)
Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved:
Name: Noelle L. Cacclabeve LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK, LLP	7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00
Internal Address: Atty. Dkt.: GOOGLE 3.0F-1123	
Street Address: 600 South Avenue West	Authorized to be charged to deposit account Enclosed None required (government interest not affecting title)
City: Westfield	8. Payment Information
State: NJ zip: 07090	
Phone Number: 908-654-5000	
Fax Number: 908-654-7866	Deposit Account Number 12-1095
Email Address: mcormier@ldlkm.com	Authorized User Name Noelle L. Cacciabeve
9. Signature: Weelle L. Signature	October 14, 2013
Noelle L. Cacciabeve - 63,075	Total number of pages including cover sheet, attachments, and documents:
Name of Person Signing	sneet, attachments, and documents:

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		FORM COVER SHEET (PTO-1599 upplemental sheet)	5)
Additional Convey	ying Party(ies)/Exec	ution Date(s) (1, Continued):	
Sumit Das (04/19/20 (04/21/2013)	13), Venkatesh Basker (04/18/2013), and Rajagopal Anant	hanarayanan
Additional Assign	ees (2. Continued):		
Assignee Name:			
Internal Address:			
Street Address:			
City:	State:	Country:	Zip:
Assignee Name:			
Internal Address:			
Street Address:			
City:	State:	Country:	Zlp:
Assignee Name:			
Internal Address:			
Street Address:			
City:	State:	Country:	Zip:
Additional Applica	ations and/or Patent	s (4. Continued):	
Additional Patent Applicat 4A. Continued:	ion Numbers	Additional Patent Numbers 4B. Continued:	
	Additional numbers	attached? Yes No	

Docket No.:

ASSIGNMENT OF PATENT APPLICATION	Docket Number (Optional)
ASSIGNMENT OF PATER APPEIOASION	GOOGLE 3.8-1123
WHEREAS, I, Tianhao Qiu of c/o Goggle Inc., 1600 Amphithea have invented or discovered inventions or discoverles, the subject matter entitled "MULTI-LEVEL CACHING EVENT LOOKUP" (hereafter "Patent whereafter") WHEREAS (if the left box is checked), the Patent Application was	r of which is described in the patent application Application"), vas filed with the U.S. Patent and
Trademark Office on March 20, 2013, Application Number 61/803,632, a	nd
WHEREAS (if the left box is checked), the Patent Application n (and whereas I hereby authorize Lemer, David, Littenberg, Krumholz & M No, filed on) the application nuknown), and	lentilk, LLP, to insert in here in brackets (Application
WHEREAS, <u>Google Inc.</u> , incorporated or otherwise formed in <u>D</u> <u>Amphitheatre Parkway; Mountain View, California 94043</u> (hereafter, the acquired and is desirous of memorializing its acquisition further herein, the	"assignee") is desirous of acquiring, or has ne entire right, title and interest in same;
NOW, THEREFORE, for good and valuable consideration their as follows. I agree to assign, and hereby do assign, to the assignee my assigned Applications in the United States of America and all other count Patent Application, including any and all inventions, discoveries and othe continuation, continuation-in-part, substitute, release, re-examination or of Patent Application pursuant to any law or treaty, and any patent issuing do 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 part Trademark Office, and any other governmental agency in the world, to issuing a supplications and to record assignee's ownership thereof. At as further remuneration, to execute and deliver documents prepared 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 affix its signature to this document as well as any other Indicia of its acceptance in unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possib purpose of the offending provision.	entire right, Ittle and interest in and to the tries, where "Assigned Applications" means the process of the subject matter described therein, any divisional, policition application claiming priority or benefit to the form the foregoing. I agree to assign, and hereby of previously conveyed, nor am I aware of an ty. I hereby authorize the U.S. Patent and sue to assignee all patents resulting from the signee's reasonable request I agree, without gnee's expense and to provide other cooperation, assignee's rights in the Assigned Applications its sole discretion, I agree that the assignee may ptance of the provisions hereof. If any provision to the full extent permissible by law and the
Apr 18, 2013 Tian h	we alv
(Date)	(Signature)

ASSIGNMENT OF PATENT APPLICATION WHEREAS, I, Mancrest Singh of to Coogle Inc., 1500 Arrohilheatre Parkway. Mountain View., California 98093, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "MULT-LEVEL CACHING EVENT LOOKUP" (presenter "Patent Application"). WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on March 20.2013. Application Number 61/803.632, and WHEREAS (if the left box is checked), the Patent Application manes the following inventors: (and whereas i hereby authorize Lenier, David, Jitterberg, Kournhotz & Merelik, LLP, to Insert in here in brackets (Application and Patent Application and Patent Applications in the Interest in same; as follows. I agree to assign, and hereby de assign, to assignee my entire right, title and interest in and to the Assigned Applications in the Interest of Patent Applications in the Interest of Interest in a patent Application pursuent in any leve or Ireaty, and any patent issuing from the Description Juriane 10 and Patent Applications in the Interest of Patent Applications in the Interest of Patent Applications in the Interest of Patent Applications in Patent Paten				
WHEREAS, I, Manpreet Singh of c/o Coogle Inc. 1600 Amphilheatre Parkway; Mountain View, California 94043, have invented or discovered inventions or discoveries, the subject matter of which is described in the patent application entitled "MULTI-LEVEL CACHING EVENT LOOKUP" (hereafter "Patent Application"). WHEREAS (If the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on March 20, 2013, Application Number 61/803,632, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lemer, David, I.Jitenberg, Knumholz & Mentilik, LLP, to Insert in here in brackets (Application No. filed on philosophy and philosophy in the application number and filing date of the application when known), and WHEREAS, Gootle Inc., incorporated or otherwise formed in Delaware and having a place of business at 1600 Amphitheatre Parkway. Mountain View, California 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, sitle 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—Part, substitute, reissue, ne-examination or other application claiming priority or benefit. In the Patent Application, and any other languages of the provisional patent is subject to assign, the right to chain 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	ACCIONISTAN	COE DATEN	TARRICATION	Docket Number (Optional)
94043, have invented or discovered inventions or discoveries, the subject matter of which is described in the pateril application entitled "MULTI-LEVEL CACHING EVENT LOOKUP" (hereafter "Patent Application"). X WHEREAS (if the left box is checked), the Patent Application was filed with the U.S. Patent and Trademark Office on March 20, 2013. Application Number 81/803,632, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lemer, David, Littenberg, Krumholz & Mentilik, LLP, to Insert in here in brackets [Application No	ASSIGNMENT	OFPAIEN	APPLICATION	GOOGLE 3,8-1123
Trademark Office on March 20, 2013, Application Number 81/803,632, and WHEREAS (if the left box is checked), the Patent Application names the following inventors: (and whereas I hereby authorize Lerner, David, Littenberg, Krumhotz & Mentlik, LLP, to Insert in here in brackets [Application No	94043, have invented or	discovered invention	ons or discoveries, the subject	matter of which is described in the patent
(and whereas I hereby authorize Lemer, David, Littenberg, Krumhotz & Mentlik, LLP, to Insert In here in brackets (Application No	The Anticumor (ii c			
Amphitheatre Parkway; Mountain View, California, 94043 (hereafter, the "assignee") Is desirous of acquiring, or has acquired and Is desirous of memorfalizing 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, fittle 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 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 pur	(and whereas I hereby a	uthorize Lerner, Da	ivid, littenberg, Krumholz & Me	ntlik, LLP, to Insert in here in brackets (Application
as follows. I agree to assign, and hereby do assign, to the assignee my entire right, fitte 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 reparse 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 protions thereof shall be deemed replaced, to the extent possible, with a provision most closely reflecting the purpose of the offending provision.	Amphitheatre Parkway; M	Nountain View, Cal	ifomia 94043 (hereafter, the "i	assignee") Is desirous of acquiring, or has
(Date) Maripros Shigh (Apr 18, 20:3) Signature)	as follows. I agree to ass Assigned Applications in in Patent Application, includ continuation, continuation Patent Application pursus do assign, to assignee the obligation to convey, my in Trademark Office, and an Assigned Applications an further remuneration, to esuch as testimony, as ma Assignee may assign or to affix its signature to this do herein is unenforceable, to offending portions thereof	tign, and hereby do the United States of ing any and all invi- hin-part, substitute and to any law or tre a right to claim suc- rights in the Assign- by other government d to record assigne- sucute and deliver by be reasonably re- rensfer all or part of booment as well a this regulrements of fishall be deemed if	o assign, to the assignee my er of America and all other countre entlons, discoveries and other entlons, discoveries and other entlosse, re-examination or oil eaty, and any patent issuing from the priority or benefit. I have no ned Applications to a third party intel agency in the world, to issue ea's ownership thereof. At asse of documents prepared at assig- equired to evidence or protect a of its rights set forth herein in it is any other indicia of its accep- of the provision shall remain to it	ntire right, fitte and Interest In and to the ies, 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 I previously conveyed, nor am I aware of an A. I hereby authorize the U.S. Patent and ue to assignee all patents resulting from the ignee's reasonable request I agree, without nee's expense and to provide other cooperation, assignee's rights in the Assigned Applications, a soile discretion. I agree that the assignee may tance of the provisions hereof, If any provision the full extent permissible by law and the
(Date) Marip/cel Singh (Apr 18, 2013) Signature)	Apr 18,	2013	mm'	7
	-	(Date)	Manpreel Singl	(Signature)

_			Docket Number (C)ptional)
ASSIGNMENT	OF PATENT APPLIC	ATION	GOOGLE 3.8-1123	
have invented or discover entitled "MULTI-LEVEL C WHEREAS (If the	red inventions or discoverles, the ACHING EVENT LOOKUP* (he	e subject matter reafter "Patent A nt Application wa	as filed with the U.S. Patent and	ent application
(and whereas I hereby at	ne left box is checked), the Paler ulhorize Lerner, David, Littenberg filled on th	, Krumholz & Me	ames the following inventors: entlik, LLP, to insert in here in bra umber and filing date of the applic	ackets (Application ation when
Amphitheatre Parkway; M	lountain View, California 94043	(hereafter, the "	<u>elaware</u> and having a place of bo 'assignee") is destrous of acquiri e entire right, tille and interest in	no. or has
as follows. I agree to assi Assigned Applications in t Patent Application, includi continuation, continuation Patent Application pursua do assign, to assignee the obligation to convey, my ri Trademark Office, and any Assigned Applications and further remuneration, to or such as testimony, as may Assignee may assign or tra- affix its signature to this do herein is unenforceable, to	ign, and hereby do assign, to the here United States of America and fing any and all Inventions, discording any and all Inventions, discording any law or treaty, and any law or treaty, and any law fight to claim such priority or beights in the Assigned Application of to record assignee's ownership accute and deliver documents play be reasonably required to evidensiar all or part of its rights set ocument as well as any other incrementary in the provision shall be deemed replaced, to the	a assignee my end all other country veries and other country veries and other xamination or other country in a line of the world, to issue the world, to issue the world, to issue the world to it accept shall remain to it.	ecelpt of which is hereby acknown the right, little and interest in arries, where "Assigned Application subject matter described thereighter application claiming priority from the foregoing. I agree to assist previously conveyed, nor amily. I hereby authorize the U.S. Paue to assignee all patents result signee's reasonable request I agree's expense and to provide or assignee's rights in the Assignee to sole discretion. I agree that the tance of the provisions hereof. I the full extent permissible by lavie, with a provision most closely the sole discretion of the provision of th	nd to the ns" means the n, any divisional, or benefit to the sign, and hereby aware of an arent and ling from the ree, without her cooperation, d Applications, e assignee may f any provision y and the
May 2,	2013	A District	- Car	
	(Date)	Haifeng Jiang (Ma	ay 2, 2013) (Signature)	
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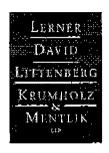
ASSIGNMENT OF PATENT APPLICATION	Docket Number (Optional)
ASSIGNMENT OF FATENT AFFLICATION	GOOGLE 3.8-1123
WHEREAS, I, Ashish Gupta of do Google Inc., 1600 Amphithe have invented or discovered inventions or discoveries, the subject matter entitled "MULTI-LEVEL CACHING EVENT LOOKUP" (hereafter "Patent	er of which is described in the patent application
X WHEREAS (if the left box is checked), the Patent Application of Trademark Office on March 20, 2013, Application Number 61/803,632, a	
WHEREAS (if the left box is chacked), the Patent Application (and whereas I hereby authorize Lemer, David, Littenberg, Krumholz & No, filed on) the application in known), and	Mentilk, LLP, to Insert in here in brackets (Application
WHEREAS, <u>Google Inc.</u> , incorporated or otherwise formed in <u>Amphilheatre Parkway; Mountain View, California 94043</u> (hereafter, the acquired and is desirous of memorializing its acquisition further herein, t	"assignee") is desirous of acquiring, or has
NOW, THEREFORE, for good and valuable consideration the as follows. I agree to assign, and hereby do assign, to the assignee my Assigned Applications in the United States of America and all other cour Patent Application, including any and all inventions, discoveries and oth continuation, continuation-in-part, substitute, reissue, re-examination or Patent Application pursuant to any law or treaty, and any patent issuing do assign, to assignee the right to calm such priority or benefit. I have in obligation to convey, my rights in the Assigned Applications to a third pa Trademark Office, and any other governmental agency in the world, to it Assigned Applications and to record assignee's ownership thereof. At a further remuneration, to execute and deliver documents prepared 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 affix its signature to this document as well as any other indicta of its acceleration is unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possipurpose of the offending provision.	entire right, title and Interest in and to the intries, where "Assigned Applications" means the er subject matter described therein, any divisional, other application claiming priority or benefit to the from the foregoing. I agree to assign, and hereby not previously conveyed, nor am I aware of an arry. I hereby authorize the U.S. Patent and issue to assignee all patents resulting from the issignee's reasonable request I agree, without ignee's expense and to provide other cooperation, at assignee's rights in the Assigned Applications. I its sole discretion. I agree that the assignee may eptance of the provisions hereof. If any provision to the full extent permissible by law and the
Apr 18, 2013	
(Oate) Ashiin (Ac	я 18, 2013) (Signature)

**	Coshel Number (Ondere)
ASSIGNMENT OF PATENT APPLICATION	Docket Number (Optional)
ASSIGNMENT OF PATENT APPLICATION	GOOGLE 3.8-1123
WHEREAS, I, <u>Sumit Das</u> of <u>c/o Google Inc.</u> , 1600 Amphitheatre have invented or discovered inventions or discoveries, the subject matter entitled "MULTI-LEVEL CACHING EVENT LOOKUP" (hereafter "Patent A	of which is described in the patent application
WHEREAS (If the left box is checked), the Patent Application was Trademark Office on March 20, 2013, Application Number 61/803,632, and	
WHEREAS (if the left box is checked), the Patent Application na (and whereas I hereby authorize Lerner, David, Littenberg, Krumholz & Me No filed on the application nur known), and	ntlik, LLP, to insert in here in brackets [Application
WHEREAS, <u>Goorle Inc.</u> , incorporated or otherwise formed in <u>De Amphitheatre Parkway; Mountain View, California <u>94043</u> (hereafter, the "acquired and is desirous of memorializing its acquisition further herein, the</u>	assignee") is desirous of acquiring, or has
NOW, THEREFORE, for good and valuable consideration the re as follows. I agree to assign, and hereby do assign, to the assignee my er Assigned 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 other continuation, continuation-in-part, substitute, reissue, re-examination or other assign, to assignee the right to claim such priority or benefit. I have not obligation to convey, my rights in the Assigned Applications to a third party Trademark Office, and any other governmental agency in the world, to isst Assigned Applications and to record assignee's ownership thereof. At assigned Applications and to record assignee's ownership thereof. At assigned Applications, as may be reasonably required to evidence or protect 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 affix its signature to this document as well as any other indicia of its acceptional in the acceptance of the offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision.	ntire right, tille and interest in and to the ies, where "Assigned Applications" means the subject matter described therein, any divisional, her application clalming priority or benefit to the om the foregoing. I agree to assign, and hereby t previously conveyed, nor am I aware of an previously from the iignee's reasonable request I agree, without nee's expense and to provide other cooperation, assignee's rights in the Assigned Applications, as sole discretion. I agree that the assignee may tance of the provisions hereof. If any provision the full extent permissible by law and the
A40 0040	.1 -
Apr 19, 2013	A A A
(Date)	(Signature)

	Dockel Number (Optional)
ASSIGNMENT OF PATENT APPLICATION	GOOGLE 3.8-1123
WHEREAS, I, <u>Venkalesh Basker</u> of <u>c/o Google Inc.</u> , 1600 Amp 94043, have invented or discovered inventions or discoveries, the subject application entitled "MULTI-LEVEL CACHING EVENT LOOKUP" (herea	ct matter of which is described in the patent
WHEREAS (if the left box is checked), the Patent Application v Trademark Office on March 20, 2013, Application Number 61/803,632, a	was filed with the U.S. Patent and and
WHEREAS (If the left box is checked), the Patent Application in (and whereas I hereby authorize Lerner, David, Littenberg, Krumhotz & M.No, filed on) the application in known), and	Mentlik, LLP, to insert in here in brackets [Application
WHEREAS, <u>Google Inc.</u> , incorporated or otherwise formed in <u>Amphitheatre Parkway; Mountain View, California 94043</u> (hereafter, the acquired and is desirous of memorializing its acquisition further herein, the	"assignee") is desirous of acquiring, or has
NOW, THEREFORE, for good and valuable consideration their as follows. I agree to assign, and hereby do assign, to the assignee my Assigned Applications in the United States of America and all other coun Patent 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 if do 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 par Trademark Office, and any other governmental agency in the world, to is Assigned Applications and to record assignee's ownership thereof. At as further remuneration, to execute and deliver documents prepared at assignee may assign or transfer all or part of its rights set forth herein in affix its signature to this document as well as any other Indicia of its accelerein is unenforceable, the requirements of the provision shall remain to offending portions thereof shall be deemed replaced, to the extent possib purpose of the offending provision.	entire right, little and interest in and to the atries, where "Assigned Applications" means the ar subject matter described therein, any divisional, other application claiming priority or benefit to the from the foregoing. I agree to assign, and hereby not previously conveyed, nor am I aware of an arry. I hereby authorize the U.S. Patent and sue to assignee all patents resulting from the seignee's reasonable request I agree, without ignee's expense and to provide other cooperation, at assignee's rights in the Assigned Applications. Its sole discretion. I agree that the assignee may explance of the provisions hereof. If any provision of the full extent permissible by law and the
Apr 18, 2013	toch
(Date) Ventotoch Ba	aaker (Apr. 18, 2013) (Signature)

PATENT

ASSIGNMENT OF PATENT APPLICATION	
ASSIGNMENT OF PAIRNLAPPLICATION I	Dockel Number (Optional)
	GOQGLE 3.8-1123
WHEREAS, I, Rajagopal Ananthenarayanan of glo Google Inc., California 94043, have invented or discovered Inventions or discoveries, Il patent application entitled "MULTI-LEVEL CACHING EVENT LOOKUP" (h WHEREAS (if the left box is checked), the Patent Application wa Trademark Office on Merch 20, 2013, Application Number 61/803.632, and WHEREAS (If the left box is checked), the Patent Application nar (and whereas I hereby authorize Lerner, David, Ultenberg, Krumholz & Merch 20, 2013, Application of the Patent	the subject matter of which is described in the ereafter "Patent Application"), is filed with the U.S. Patent and if the body in the body
No, filed on] the application num known), and	ther and filing date of the application when
WHEREAS, <u>Google Inc.</u> , incorporated or otherwise formed in <u>Del</u> <u>Amphitheatre Parkway; Mountain View, California 94043</u> (hereafter, the "a acquired and is desirous of memorializing its acquisition further herein, the	ssignee") is desirous of acquiring, or has
NOW, THEREFORE, for good and valuable consideration the rec as follows. I agree to assign, and hereby do assign, to the assignee my en Assigned Applications in the United States of America and all other countri-Patent Application. including any and all Inventions, discoveries and other continuation, continuation-in-part, substitute, reissue, re-examination or other than the Application pursuant to any law or treaty, and any patent Issuing fro do assign, to assignee the right to calm such priority or benefit. I have not obligation to convey, my rights in the Assigned Applications to a third party Trademark Office, and any other governmental agency in the world, to issu Assigned Applications and to record assignee's ownership thereof. At assignether remuneration, to execute and deliver documents prepared at assign such as testimony, as may be reasonably required to evidence or protect a Assignee may assign or transfer all or part of its rights set forth herein in its affix its signature to this document as well as any other indicia of its accept	the right, title and interest in and to the es, where "Assigned Applications" means the subject matter described therein, any divisional, ier application daiming priority or benefit to the mithe foregoing. I agree to assign, and hereby previously conveyed, nor am I aware of an I hereby authorize the U.S. Patent and e to assignee all patents resulting from the genee's reasonable request I agree, without ee's expense and to provide other cooperation, ssignee's rights in the Assigned Applications.
herein is unenforceable, the requirements of the provision shall remain to the offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision.	ne full extent permissible by law and the
herein is unenforceable, the requirements of the provision shall remain to the offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision. Apr 21, 2013	ne full extent permissible by law and the , with a provision most closely reflecting the
herein is unenforceable, the requirements of the provision shall remain to the offending portions thereof shall be deemed replaced, to the extent possible purpose of the offending provision. Apr 21, 2013	ne full extent permissible by law and the , with a provision most closely reflecting the .



600 South Avenue West - Westfield, New Jersey 07090 908.654.5000 · FAX 908.654.7866 · WWW.LDLKM.COM

PATENTS, TRADEMARKS, COPYRIGHTS & UNFAIR COMPETITION



Fax Number From To: 571-273-0140 **Phyllis Kelly** USPTO Assignment Division 908-518-6456

Date: October 14, 2013

No. Pages: 10

File Name.: GOOGLE 3.0F-1123 Client/Matter No: GOOGLE/2321 Attorney/Secretary: NLC/sw

MESSAGE:

Please record the attached assignment and fax the Notice of Recordation to Phyllis Kelly at 908-654-7866.

NOTICE: The information contained herein is intended only for the addressee identified above. It may be or may include material that is confidential, attorney-client privileged, attorney work product, copyrighted, and/or inside information. If you are not the intended recipient, or a person responsible for delivering this message to the intended recipient, you are hereby notified that the unauthorized use, disclosure, distribution or copying is strictly prohibited and may be in violation of court order or otherwise unlawful. If you have received this transmission in error, please immediately notify us at 908 654 5000 (collect, if necessary) and return this document to us by mail.

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PATENT REEL: 031475 FRAME: 0902

RECORDED: 10/14/2013