# 504074782 10/31/2016

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4121449

SUBMISSION TYPE:		١	NEW ASSIGNMENT			
NATURE OF CONVEYANCE:		A	ASSIGNMENT			
CONVEYING PARTY [	ΔΤΑ					
		N	lame			Execution Date
KURCHI SUBHRA HAZRA					1	0/30/2016
RECEIVING PARTY D	ΑΤΑ					
Name:	FACEB	FACEBOOK, INC.				
Street Address:	1601 W	VILLOW	/ ROAD			
City:	MENLO	) PARK	<			
State/Country:	CALIFO	ORNIA				
Postal Code:	94025					
			Number			
Property Type	•		Number			
Property Type	•	152288				
	•					
Property Type Application Number: CORRESPONDENCE Fax Number:	DATA	(214)95	53-6503			
Property Type Application Number: CORRESPONDENCE Fax Number: <i>Correspondence will I</i>	DATA	152288 (214)95 o the e-	366			
Property Type Application Number: CORRESPONDENCE Fax Number: <i>Correspondence will I using a fax number, if</i> Phone:	DATA be sent to f provideo	152288 (214)95 o the e- d; if tha 214 955	366 53-6503 Smail address first; if that it is unsuccessful, it will 3 6500	l be sent v	ria US Mail	
Property Type Application Number: CORRESPONDENCE Fax Number: <i>Correspondence will I using a fax number, if</i> Phone: Email:	DATA be sent to	(214)95 o the e- d; if tha 214 955 ptomail	366 53-6503 • <i>mail address first; if tha</i> • <i>t is unsuccessful, it wil</i> 3 6500 11@bakerbotts.com, junif	l be sent v	ria US Mail	
Property Type Application Number: CORRESPONDENCE Fax Number: <i>Correspondence will I using a fax number, if</i> Phone: Email: Correspondent Name	DATA be sent to f provideo	152288 (214)95 o the e- d; if tha 214 955 ptomail BAKEF	366 53-6503 <i>mail address first; if tha</i> <i>it is unsuccessful, it wil</i> 3 6500 I1@bakerbotts.com, junif R BOTTS L.L.P.	l <b>l be sent v</b> el.gutierrez	ria US Mail	
Property Type Application Number: CORRESPONDENCE Fax Number: <i>Correspondence will I using a fax number, it</i> Phone: Email: Correspondent Name Address Line 1:	DATA be sent to f provideo	(214)95 o the e- d; if tha 214 955 ptomail BAKEF 2001 R	366 53-6503 57 mail address first; if that at is unsuccessful, it will 3 6500 11@bakerbotts.com, junif R BOTTS L.L.P. ROSS AVENUE. 6TH FLC	l <b>l be sent v</b> el.gutierrez	ria US Mail	
Property Type Application Number: CORRESPONDENCE Fax Number: <i>Correspondence will I using a fax number, if</i> Phone: Email: Correspondent Name	DATA be sent to f provideo	(214)95 o the e- d; if tha 214 955 ptomail BAKEF 2001 R	366 53-6503 <i>mail address first; if tha</i> <i>it is unsuccessful, it wil</i> 3 6500 I1@bakerbotts.com, junif R BOTTS L.L.P.	l <b>l be sent v</b> el.gutierrez	ria US Mail	
Property Type Application Number: CORRESPONDENCE Fax Number: <i>Correspondence will I using a fax number, if</i> Phone: Email: Correspondent Name: Address Line 1: Address Line 4:	DATA be sent to f provideo	(214)95 o the e- d; if tha 214 95 ptomail BAKEF 2001 R DALLA	366 53-6503 57 mail address first; if that at is unsuccessful, it will 3 6500 11@bakerbotts.com, junif R BOTTS L.L.P. ROSS AVENUE. 6TH FLC	l <b>l be sent v</b> el.gutierrez	ria US Mail	
Property Type Application Number: CORRESPONDENCE Fax Number: <i>Correspondence will I using a fax number, if</i> Phone: Email: Correspondent Name: Address Line 1: Address Line 4:	DATA be sent to f provided : IUMBER:	(214)95 o the e- d; if tha 214 95 ptomail BAKEF 2001 R DALLA	53-6503 <i>mail address first; if tha</i> <i>it is unsuccessful, it wil</i> 3 6500 11@bakerbotts.com, junif R BOTTS L.L.P. ROSS AVENUE. 6TH FLC AS, TEXAS 75201	<i>I be sent v</i> el.gutierrez DOR	ria US Mail	
Property Type Application Number: CORRESPONDENCE Fax Number: <i>Correspondence will I using a fax number, it</i> Phone: Email: Correspondent Name Address Line 1:	DATA be sent to f provided : IUMBER:	(214)95 o the e- d; if tha 214 95 ptomail BAKEF 2001 R DALLA C J	53-6503 mail address first; if that it is unsuccessful, it will 3 6500 I1@bakerbotts.com, junif R BOTTS L.L.P. ROSS AVENUE. 6TH FLC S, TEXAS 75201	<i>I be sent v</i> el.gutierrez DOR	ria US Mail	
Property Type Application Number: CORRESPONDENCE Fax Number: <i>Correspondence will I using a fax number, if</i> Phone: Email: Correspondent Name Address Line 1: Address Line 1: Address Line 4:	DATA be sent to f provided : IUMBER:	(214)95 o the e- d; if tha 214 955 ptomail BAKEF 2001 R DALLA 0 J J J J J J J	53-6503 mail address first; if that it is unsuccessful, it will 3 6500 11@bakerbotts.com, junif R BOTTS L.L.P. ROSS AVENUE. 6TH FLC S, TEXAS 75201 079894.3925 JUNIFEL B. GUTIERREZ	<i>I be sent v</i> el.gutierrez DOR	ria US Mail	

source=079894-3925-Executed-Combined-Declaration-Assignment-Inventor-Hazra#page2.tif

#### COMBINED ASSIGNMENT AND DECLARATION (37 C.F.R. § 1.63)

For good and valuable consideration, the receipt of which is hereby acknowledged, the person(s) named below (referred to as "INVENTOR" whether singular or plural) has sold, assigned, and transferred and does hereby sell, assign, and transfer to Facebook, Inc., a Delaware corporation, having a place of business at 1601 Willow Road, Menlo Park, California 94025 ("ASSIGNEE"), for itself and its successors, transferees, and assignees, the following:

1. The entire worldwide right, title, and interest in all inventions and improvements ("SUBJECT MATTER") that are disclosed in the following provisional patent application filed under 35 U.S.C. § 111(b), non-provisional patent application filed under 35 U.S.C. § 111(a), international patent application filed according to the Patent Cooperation Treaty (PCT), or U.S. national-phase patent application filed under 35 U.S.C. § 371 ("APPLICATION"):

#### Application No. 15/228,866, entitled "Client-Side Caching of Search Keywords for Online Social Networks" filed on 04 August 2016.

2. The entire worldwide right, title, and interest in and to: (a) the APPLICATION; (b) all patent applications claiming priority from the APPLICATION; (c) all provisional, utility, divisional, continuation, substitute, renewal, reissue, and other patent applications related thereto which have been or may be filed in the United States or elsewhere in the world; (d) all patents (including reissues and re-examinations) which may be granted on the patent applications set forth in (a), (b), and (c) above; and (e) all right of priority in the APPLICATION and in any underlying provisional or foreign patent application, together with all rights to recover damages for infringement of provisional rights.

INVENTOR agrees that ASSIGNEE may apply for and receive patents for SUBJECT MATTER in ASSIGNEE's own name.

INVENTOR agrees to do the following, when requested, and without further consideration, in order to carry out the intent of this Assignment: (1) execute all oaths, assignments, powers of attorney, applications, and other papers necessary or desirable to fully secure to ASSIGNEE the rights, titles and interests herein conveyed; (2) communicate to ASSIGNEE all known facts relating to the SUBJECT MATTER; and (3) generally do all lawful acts that ASSIGNEE shall consider desirable for securing, maintaining, and enforcing worldwide patent protection relating to the SUBJECT MATTER and for vesting in ASSIGNEE the rights, titles, and interests herein conveyed. INVENTOR further agrees to provide any successor, assign, or legal representative of ASSIGNEE with the benefits and assistance provided to ASSIGNEE hereunder.

INVENTOR represents that INVENTOR has the rights, titles, and interests to convey as set forth herein, and covenants with ASSIGNEE that the INVENTOR has not made and will not hereafter make any assignment, grant, mortgage, license, or other agreement affecting the rights, titles, and interests herein conveyed.

INVENTOR grants the attorney of record the power to insert on this Assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

Page 1 of 7

...... Budge Ma . 070003 3034

Aurino 57501515 \$

PATENT REEL: 040177 FRAME: 0704

Title:	Client-Side Caching of Search Keywords for Online Social Networks							
Date Filed:	04 August 2016							
Application No.:	15/228,866							

This Assignment may be executed in one or more counterparts, each of which shall be deemed an original and all of which may be taken together as one and the same Assignment.

### DECLARATION (37 C.F.R. § 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. § 1.76)

By signing below, INVENTOR further attests to the following:

- The APPLICATION was made or authorized to be made by INVENTOR.
- INVENTOR believes that INVENTOR is the original inventor or an original joint inventor of a claimed invention in the APPLICATION.
- INVENTOR acknowledges the duty to disclose to the United States Patent and Trademark Office all information known to INVENTOR to be material to patentability as defined in 37 CFR § 1.56, which for a continuation-in-part includes information known to INVENTOR to be material to patentability as defined in 37 CFR § 1.56 that became available between the filing date of the prior patent application and the National or PCT filing date of the continuation-in-part application.

INVENTOR hereby acknowledges that any willful false statement made in this Declaration is punishable under 18 U.S.C. § 1001 by fine, imprisonment of not more than five years, or both.

Name and Signature

3	AN 51 5	· .
Kamerlen	Markennen	Hazara
a service of the	and an one of the Cast	E Condensioner - and

Kurchi Subhra HAZRA

Name and Signature

Igor Ribeiro DE ASSIS

Name and Signature

Jun JIN

Date of Signature

10/20/2016

Date of Signature

Date of Signature

Roman Dankat Ma - 070804 2015

Page 2 rof 2

S / Maria 07005555

PATENT REEL: 040177 FRAME: 0705

**RECORDED: 10/31/2016**