504380114 05/23/2017

PATENT ASSIGNMENT COVER SHEET

EPAS ID: PAT4426809

Electronic Version v1.1 Stylesheet Version v1.2

SUBMISSION TYPE: NEW ASSIGNMENT NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YEYE HE	04/06/2017
SURAJIT CHAUDHURI	05/19/2017
ER KANG ZHU	04/06/2017

RECEIVING PARTY DATA

Name:	MICROSOFT TECHNOLOGY LICENSING, LLC	
Street Address:	ONE MICROSOFT WAY	
City:	REDMOND	
State/Country:	WASHINGTON	
Postal Code:	98052	

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15481055

CORRESPONDENCE DATA

Fax Number: (612)332-9081

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: 612-332-5300

Email: usdocket@microsoft.com

MERCHANT & GOULD (MICROSOFT) Correspondent Name:

Address Line 1: P.O. BOX 2903

Address Line 4: MINNEAPOLIS, MINNESOTA 55402-0903

ATTORNEY DOCKET NUMBER:	14917.3075USU1/400980USNP	
NAME OF SUBMITTER:	CHRISTOPHER J. LEONARD	
SIGNATURE:	/Christopher J. Leonard/	
DATE SIGNED:	05/23/2017	

Total Attachments: 6

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PATENT REEL: 042478 FRAME: 0154 504380114

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PATENT REEL: 042478 FRAME: 0155

PATENT ASSIGNMENT

l Yeye He ("ASSIGNOR") am the original inventor or an original joint inventor of
subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled
"JOINING TABLES BY LEVERAGING TRANSFORMATIONS" ("APPLICATION"), which:

△ WIII be filed. A	ASSIGNOR hereby auth	orizes, and requests,
ASSIGNEE'S legal re	epresentative, Microsoft	Technology Licensing,
	Way, Redmond, Washing	_ -
	ATIVES), to insert here	
	and	given Application
No15/481,055	by the following Offic	ce <u>US – United States</u>
Patent and Tradem	ark Office) this APPLICA	
filing date, and Offi		
□ was filed on	and was given	Application No
Office";	fice " <u>United States Paten</u> t	<u>. and Trademark</u>
Microsoft Technology Lice	nsing IIC a Washingto	n limited liability company, on
behalf of itself and its success		
desirous of acquiring, the entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and		
patents derived therefrom, such as continuing applications, in whole or in part, in and		
for the United States, its tel		
DERIVATIVES"));		•
ASSIGNOR hereby au	uthorizes, and requ	iests, ASSIGNEE'S LEGAL
REPRESENTATIVES to insert the	e Application No., filing	g date, and Office into the
following table for any APPLICATI	ON DERIVATIVES after th	ney are known;
Application No.	Filing Date	Office

Page 1 of 2

PATENT ASSIGNMENT

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For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to the ASSIGNEE, ASSIGNOR's entire and exclusive rights, title and interest, including the right of priority, in the INVENTION and the APPLICATION (and all other applications and patents derived therefrom, such as continuing applications, in whole or in part, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES"));

ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of the APPLICATION (and APPLICATION DERIVATIVES), for litigation regarding letters patent derived therefrom, and for the purpose of protecting and perfecting title to the APPLICATION (and APPLICATION DERIVATIVES).

Inventor's Signature	4/6/2017 Date (Required)
Yeye He Printed Name in English	Printed Name in Native Language (if other than English)

PATENT ASSIGNMENT

inventor of	subject matter entitled "JOININ	("INVENTION") disclosed	d inventor or an original joint and/or claimed in a patent GING TRANSFORMATIONS'
	ASSIGNEE'S legal LLC, One Microso LEGAL REPRESEN on No. Patent and Trade filing date, and O	ASSIGNOR hereby auth representative, Microsoft ft Way, Redmond, Washing TATIVES), to insert here and by the following Offi mark Office) this APPLICA ffice, when known;	t Technology Licensing, gton 98052 (ASSIGNEE'S e in parentheses (filed given Application ce <u>US – United States</u> TION's Application No.,
		<u>6, 2017</u> and was given Ap ne following Office " <u>United</u> ";	
behalf of its desirous of a right of prior patents deriv	eelf and its succe acquiring, the enti ity, in the INVENTI red therefrom, suc ted States, its	ssors and assigns ("ASSI re and exclusive rights, ti ON and the APPLICATION h as continuing applicatio	on limited liability company, on GNEE"), is entitled to, and is itle and interest, including the (and all other applications and ons, in whole or in part, in and ign countries ("APPLICATION
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ASSIGNOR agrees to execute all instruments and documents required for the making and prosecution of the APPLICATION (and APPLICATION DERIVATIVES), for litigation regarding letters patent derived therefrom, and for the purpose of protecting and perfecting title to the APPLICATION (and APPLICATION DERIVATIVES).

-Surgit Chardhin	MAY 19, 2017
Inventor's Signature	Date (Required)
Surajit Chaudhuri	
Printed Name in English	Printed Name in Native Language
	(if other than English)

PATENT ASSIGNMENT

	I <u>Er</u>	<u>Kang Zh</u>	<u>u</u> ("ASSI	IGNOR")	am the	original	invento	or or a	n ori	ginal jo	int invento	r
of	subject	matter	("INVE	("NOITV	disclos	ed and/	or clai	med i	n a	patent	applicatio	n
en	titled "JO	INING T	ABLES E	BY LEVER	AGING	TRANSFO	ORMAT	IONS"	("APF	LICATIO	N"), which	1:

ASSIGNEE'S legal LLC, One Microso LEGAL REPRESEN on <u>April 6, 20</u> No. <u>15/481,055</u> <u>Patent and Trade</u>	ASSIGNOR hereby authorepresentative, Microsoft ft Way, Redmond, Washing TATIVES), to insert here and by the following Officemark Office this APPLICA ffice, when known;	Technology Licensing, gton 98052 (ASSIGNEE'S in parentheses (filed given Application ce <u>US – United States</u>
	and was given Office " <u>United States Paten</u>	
Microsoft Technology Liberal Microsoft Technology Liberal Microsoft Technology Liberal Microsoft and its succe desirous of acquiring, the entiright of priority, in the INVENTI patents derived therefrom, sucfor the United States, its to DERIVATIVES"));	ssors and assigns ("ASSI re and exclusive rights, ti ON and the APPLICATION h as continuing applicatio	tle and interest, including the (and all other applications and ns, in whole or in part, in and
REPRESENTATIVES to insert to	he Application No., filin	
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Page 1 of 2

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Inventor's Signature

Er Kang Zhu

Printed Name in English

Printed Name in Native Language (if other than English)