PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
STEWART PAUL TOOTILL	10/17/2016
KEVIN LINGLEY	10/14/2016
DAVID NIALL COGHLAN	10/17/2016
MICHAL VINE	10/21/2016
LINDEN VONGSATHORN	10/17/2016

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:	15331651

CORRESPONDENCE DATA

Fax Number: (503)595-5301

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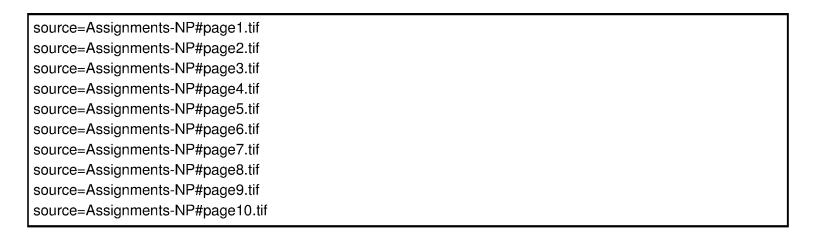
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Address Line 4: PORTLAND, OREGON 97204

ATTORNEY DOCKET NUMBER:	3382-97264-02
NAME OF SUBMITTER:	CORY A. JONES
SIGNATURE:	/Cory A. Jones/
DATE SIGNED:	10/24/2016

Total Attachments: 10

PATENT REEL: 040105 FRAME: 0401

504064246



I, Stewart Paul Tootill ("AS inventor of subject matter ("INVI application entitled "ANALYZING USING FREQUENCY SPECTRUMS"	ENTION") disclosed and/or CHANGES IN VOCAL POW		
legal representa Microsoft Way, F REPRESENTATIVI and given Applic United States Pa	tives, of Microsoft Techno Redmond, Washington 980	052 (ASSIGNEE'S LEGAL theses (filed on <u>October 21, 20</u> 16 y the following Office: e) this APPLICATION's	
	and was given Applicati tates Patent and Trademar	on No by the following k Office";	
Microsoft Technology Lice behalf of itself and its successor desirous of acquiring, the entire right of priority, in the INVENTIC patents derived therefrom, such for the United States, its territor DERIVATIVES"));	rs and assigns ("ASSIGNEE" and exclusive rights, title ON and the APPLICATION (a as continuing application	and interest, including the and all other applications and s, in whole or in part,in and	
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to insert the Application No., fili APPLICATION DERIVATIVES after		ne following table for any	
Application No.	pplication No. Filing Date Office		

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns and transfers to

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

Stewart Paul Tootill

Printed Name in English

Date

Printed Name in Native Language (if other than English)

I, Kevin Lingley ("ASSIGNO inventor of subject matter ("INVE application entitled "ANALYZING USING FREQUENCY SPECTRUMS"	CHANGES IN VOCAL POWI	claimed in a patent
legal representa Microsoft Way, R REPRESENTATIVE and given Applic United States Pa	tives, of Microsoft Technol ledmond, Washington 980	52 (ASSIGNEE'S LEGAL heses (filed on October 21, 2016) the following Office:) this APPLICATION's
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Microsoft Technology Lice behalf of itself and its successor desirous of acquiring, the entire right of priority, in the INVENTIC patents derived therefrom, such for the United States, its territori DERIVATIVES"));	s and assigns ("ASSIGNEE" and exclusive rights, title IN and the APPLICATION (a as continuing applications	and interest, including the and all other applications and s, in whole or in part,in and
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KM lingly	10/14/2016
Inventor's Signature	Date
Kevin Lingley	
Printed Name in English	Printed Name in Native Language (if other than English)

I, David Niall Coghlan ("AS inventor of subject matter ("INVE application entitled "ANALYZING USING FREQUENCY SPECTRUMS"	NTION") disclosed and/or CHANGES IN VOCAL POWI	*
legal representat Microsoft Way, R REPRESENTATIVE and given Applic United States Pa	tives, of Microsoft Technol edmond, Washington 980	52 (ASSIGNEE'S LEGAL heses (filed on <u>October 21, 201</u> 6 the following Office:) this APPLICATION's
	_ and was given Application ates Patent and Trademarl	on No by the following c Office";
Microsoft Technology Lice behalf of itself and its successor desirous of acquiring, the entire right of priority, in the INVENTIC patents derived therefrom, such for the United States, its territori DERIVATIVES"));	s and assigns ("ASSIGNEE") and exclusive rights, title IN and the APPLICATION (a as continuing applications	and interest, including the and all other applications and s, in whole or in part,in and
ASSIGNOR hereby authorized insert the Application No., filicapplication Serior APPLICATION DERIVATIVES after	ng date, and Office into th	EE'S LEGAL REPRESENTATIVES e following table for any
Application No.	Filing Date	Office

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David Gylan Inventor's Signature	17/0d/16 Date
David Niall Coghlan	
Printed Name in English	Printed Name in Native Language (if other than English)

I, Michal Vine ("ASSIGNOR" of subject matter ("INVENTION") of entitled "ANALYZING CHANGES IN FREQUENCY SPECTRUMS" ("APPLIC	disclosed and/or claimed in VOCAL POWER WITHIN M	
legal representat Microsoft Way, Ro REPRESENTATIVE and given Applic United States Pat	ives, of Microsoft Technoled edmond, Washington 980	52 (ASSIGNEE'S LEGAL heses (filed on <u>October 21, 20,</u> 16 the following Office:) this APPLICATION's
	_ and was given Application ates Patent and Trademark	on No by the following c Office";
Microsoft Technology Lice behalf of itself and its successors desirous of acquiring, the entire right of priority, in the INVENTIO patents derived therefrom, such for the United States, its territori DERIVATIVES"));	s and assigns ("ASSIGNEE") and exclusive rights, title N and the APPLICATION (a as continuing applications	and interest, including the ind all other applications and in whole or in part,in and
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APPLICATION DERIVATIVES after		
Application No. Filing Date Office		

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Inventor's Signature	21 Oct 2016 Date	
Michal Vine Printed Name in English	Printed Name in Native Language (if	
	other than English)	

•	-		inventor or an original joint
_		NTION") disclosed and/or	R WITHIN MUSIC CONTENT
• •		"APPLICATION"), which:	K WITHIN MUSIC CONTENT
	legal representat Microsoft Way, R REPRESENTATIVE and given Applic United States Pat	IGNOR hereby authorizes, ives, of Microsoft Technologics, of Microsoft Technologics, which was at the second of th	ogy Licensing, LLC, One 52 (ASSIGNEE'S LEGAL neses (filed on <u>October 21, 2016</u> the following Office: this APPLICATION's
		_ and was given Application at the action and Trademark	on No by the following c Office";
behalf of itself desirous of acq right of priority patents derived	and its successor uiring, the entire , in the INVENTIO I therefrom, such States, its territori	s and assigns ("ASSIGNEE") and exclusive rights, title N and the APPLICATION (a	and interest, including the nd all other applications and s, in whole or in part,in and
ASSIGNO	R hereby authori	zes, and requests, ASSIGN	EE'S LEGAL REPRESENTATIVES
		ng date, and Office into th	
APPLICATION D	ERIVATIVES after	they are known;	
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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

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Inventor's Signature	17 OCT 2016 Date
Linden Vongsathorn	
Printed Name in English	Printed Name in Native Language (if
	other than English)

PATENT REEL: 040105 FRAME: 0412

RECORDED: 10/24/2016