505845691 01/03/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5892627

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
AUSTIN NEIL KINKROSS	03/01/2018
SHAWN LEE HARGREAVES	03/01/2018
AMAR PATEL	03/01/2018
THOMAS LEE DAVIDSON	03/01/2018

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:	16731634

CORRESPONDENCE DATA

Fax Number: (202)857-6395

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.

Email: patentdocket@arentfox.com, jeevon.jones@arentfox.com

Correspondent Name: ARENT FOX LLP

Address Line 1: 1717 K STREET, N.W.

Address Line 4: WASHINGTON D.C. 2000

Address Line 4: WASHINGTON, D.C. 20006

ATTORNEY DOCKET NUMBER:	037834.01239/403769-USCNT
NAME OF SUBMITTER:	JEEVON JONES
SIGNATURE:	/Jeevon Jones/
DATE SIGNED:	01/03/2020

Total Attachments: 8

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PATENT 505845691 REEL: 051408 FRAME: 0410

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PATENT REEL: 051408 FRAME: 0411

	PLICATION"), which: will be filed. ASSIGNOR hereby authorizes, and requests,
etionis.	ASSIGNEE'S legal representative, Microsoft Technology Licensing,
	LLC, One Microsoft Way, Redmond, Washington 98052 (ASSIGNEE'S
	LEGAL REPRESENTATIVES), to insert here in parentheses (filed
	on March 2, 2018 and given Application No. 15/910,538 by
	the following Office <u>US - United States Patent and Trademark Office</u>)
	this APPLICATION's Application No., filing date, and Office, when
	known;

Microsoft Technology Licensing, LLC, a Washington limited liability company, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to, and is 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 territories, and all foreign_countries ("APPLICATION DERIVATIVES"));

ASSIGNOR hereby authorizes, and requests, ASSIGNEE'S LEGAL REPRESENTATIVES to insert the Application No., filing date, and Office into the following table for any APPLICATION DERIVATIVES after they are known;

Application No.	Filing Date	Office
16/731,634	December 31, 2019	U.S. Patent and Trademark Office
		<u> </u>

Page 1 of 2

MS Docket No.: 403769-US-NP

MS Docket No.:	403769-US-NP
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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).

Austin Neil KINROSS

Printed Name in English

Printed Name in English

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Printed Name in Native Language
(if other than English)

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joint invento application (or of subject matt	er ("INVENTION") disc JES FOR GENERATING	i the original inventor or an dosed and/or claimed in VISUALIZATIONS OF RAY 1	a patent
	ASSIGNEE'S legal LLC, One Microso LEGAL REPRESEN on the following Office	representative, Micro ft Way, Redmond, Wa TATIVES), to insertand given Applic ce <u>US – United States I</u>	authorizes, and request psoft Technology Licensing shington 98052 (ASSIGNEE here in parentheses (file tation Not latent and Trademark Offic ling date, and Office, whe	g, 'S :d :y g)
		and was g by the following (";		
behalf of itse of acquiring priority, in th derived there United States ASSIGI to insert the	If and its successo, the entire and exine INVENTION and efrom, such as core, its territories, and NOR hereby author	rs and assigns ("ASSIG kelusive rights, title a the APPLICATION (and ntinuing applications, d all foreign countries rizes, and requests, A filling date, and Offic	ngton limited liability comp NEE"), is entitled to, and is a nd interest, including the I all other applications and in whole or in part, in and if "APPLICATION DERIVATIV SSIGNEE'S LEGAL REPRESEN e into the following table	desirous right of patents I for the (ES")); TATIVES
Application		Filing Date	Office	
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Page 1 of 2

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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"));

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Shows Stoffers

Inventor's Signature

Shawn Lee HARGREAVES

Printed Name in English

Date

Printed Name in Native Language (if other than English)

Page 2 of 2

inventor of application of	subject ma	_ ("ASSIGNOR") am the datter ("INVENTION") disc <u>CHNIQUES FOR GENERATII</u>), which:	closed and/or claim	ned in a patent
	ASSIGNEE'S LLC, One M LEGAL REP on the followin	led. ASSIGNOR hereb legal representative, M licrosoft Way, Redmond, ' PRESENTATIVES), to inse and given Ap ng Office <u>US – United State</u> CATION's Application No.	icrosoft Technology Washington 98052 (A rt here in parenthe plication No. es Patent and Tradem	Licensing, ASSIGNEE'S eses (filed by aark Office)
	No	n and wa by the followir ";		
behalf of itse of acquiring priority, in t derived ther United State	elf and its such the INVENTION such s, its territor	logy Licensing, LLC, a Waccessors and assigns ("AS and exclusive rights, title N and the APPLICATION (as continuing applicationies, and all foreign count authorizes, and requests	SIGNEE"), is entitled to and interest, incluicand all other applicans, in whole or in parties ("APPLICATION Description, ASSIGNEE'S LEGAL F	o, and is desirous ding the right of tions and patents irt, in and for the DERIVATIVES"));
APPLICATIO	N DERIVATIV	n No., filing date, and C 'ES after they are known;	T	ing table for any
Application	No.	Filing Date	Office	

Page 1 of 2

MS Docket No.: 403769-US-NP

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"));

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	3/1/2018
Inventor's Signature	Date
Amar PATEL	
Printed Name in English	Printed Name in Native Language
	(if other than English)

PATI	ENT ASSIGNMENT	MS Docket No.: 403769-US-NP
joint inventor of subject	matter ("INVENTION") dis INIQUES FOR GENERATING	n the original inventor or an original closed and/or claimed in a patent VISUALIZATIONS OF RAY TRACING
ASSIGNEE'S LLC, One Mid LEGAL REPR on the following	legal representative, Micr crosoft Way, Redmond, Wa ESENTATIVES), to insert and given Appli Office <u>US – United States</u>	authorizes, and requests, rosoft Technology Licensing, ashington 98052 (ASSIGNEE'S here in parentheses (filed cation Noby Patent and Trademark Office) filing date, and Office, when
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behalf of itself and its succ of acquiring, the entire a priority, in the INVENTION derived therefrom, such a	essors and assigns ("ASSIO nd exclusive rights, title and the APPLICATION (an s continuing applications	ington limited liability company, on GNEE"), is entitled to, and is desirous and interest, including the right of id all other applications and patents, in whole or in part, in and for the s ("APPLICATION DERIVATIVES"));
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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"));

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Mariner Francisco	3/(/20 L S
Inventor's Signature	Date
Thomas Lee DAVIDSON	
Printed Name in English	Printed Name in Native Language
	(if other than English)

Page 2 of 2

RECORDED: 01/03/2020