504164999 01/05/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4211676

| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-----------------------|----------------|
| MATTHEW WOZNIAK | 12/15/2016 |
| BAKKAMA SRINATH REDDY | 12/28/2016 |
| VLADISLAV ALEXANDROV | 12/16/2016 |

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: | 15384237 |

CORRESPONDENCE DATA

Fax Number: (503)595-5301

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

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KYLE B. RINEHART, KLARQUIST SPARKMAN LLP **Correspondent Name:**

121 SW SALMON STREET, SUITE 1600 Address Line 1:

Address Line 2: ONE WORLD TRADE CENTER Address Line 4: PORTLAND, OREGON 97204

| ATTORNEY DOCKET NUMBER: | 3382-98049-02 |
|-------------------------|--------------------|
| NAME OF SUBMITTER: | KYLE B. RINEHART |
| SIGNATURE: | /Kyle B. Rinehart/ |
| DATE SIGNED: | 01/05/2017 |

Total Attachments: 6

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PATENT ASSIGNMENT

| inventor of subject matter | c ("ASSIGNOR"), am the orig - ("INVENTION") disclosed a -DEPENDENT OPERATIONS LICATION"), which: | and/or claimed in a pate | ent |
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| legal repr Microsoft REPRESEN and given Trademar | ed. ASSIGNOR hereby auth esentatives, of Microsoft T Way, Redmond, Washington TATIVES) to insert here in Application No. 15/384,23 k Office) this APPLICATION ten known; | echnology Licensing, Lion 98052 (ASSIGNEE'S Liparentheses (filed on | LC, One EGAL 12/19/2016 s Patent and |
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| behalf of itself and its sud desirous of acquiring, the right of priority, in the IN' patents derived therefron | ogy Licensing, LLC, a Washi cessors and assigns ("ASSI entire and exclusive right VENTION and the APPLICAT n, such as continuing appli erritories, and all foreign o | IGNEE"), is entitled to, a s, title and interest, inc FION (and all other app cations, in whole or in | ind is luding the lications and part,in and |
| | authorizes, and requests, A No., filing date, and Office 'S after they are known; | | |
| Application No. | Filing Date | Office | |
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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

Date

Matthew Wozniak

Printed Name in English

Printed Name in Native Language (if other than English)

PATENT ASSIGNMENT

| I, Bakkama Srinath Reddy (" joint inventor of subject matter ("I application entitled "VIEW-DEPEND PANORAMIC VIDEO" ("APPLICATION | NVENTION") disclosed an DENT OPERATIONS DURIN | d/or claimed in a patent |
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| legal representativ Microsoft Way, Re REPRESENTATIVES and given Applica | ves, of Microsoft Technol dmond, Washington 980) to insert here in parentl tion No by) this APPLICATION's App | |
| | <u>mber 19, 2016</u> , and was e United States Patent an | |
| behalf of itself and its successors desirous of acquiring, the entire a right of priority, in the INVENTION patents derived therefrom, such a for the United States, its territories DERIVATIVES")); ASSIGNOR hereby authorize to insert the Application No., filing | and assigns ("ASSIGNEE") nd exclusive rights, title I and the APPLICATION (a s continuing applications s, and all foreign countric es, and requests, ASSIGNI g date, and Office into th | and interest, including the nd all other applications and in whole or in part,in and es ("APPLICATION |
| APPLICATION DERIVATIVES after th | · · | |
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Inventor's Signature

Bakkama Srinath Reddy
Printed Name in English

Printed Name in Native Language (if other than English)

PATENT ASSIGNMENT

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| legal repre Microsoft ' REPRESEN' and given | sentatives, of Microsoft T Way, Redmond, Washingt FATIVES) to insert here in Application No. <u>15/384,2</u> COffice) this APPLICATION | norizes, and requests, ASSIG Fechnology Licensing, LLC, on 98052 (ASSIGNEE'S LEGA parentheses (filed on <u>12/1</u> 37 by the United States Pa N's Application No. filing da | One AL <u>9/2016</u> , atent and |
| | n and was giv States Patent and Trader | en Application No nark Office; | by |
| behalf of itself and its succeeds desirous of acquiring, the right of priority, in the INV | cessors and assigns ("ASS entire and exclusive righ ENTION and the APPLICA , such as continuing appl | ington limited liability com IGNEE"), is entitled to, and ts, title and interest, includi TION (and all other applicat ications, in whole or in part countries ("APPLICATION | is ing the tions and |
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| Application No. | Filing Date | Office | |
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| HA Al | 12/16/2016 |
|-------------------------|-------------------------------------|
| Inventor's Signature | Date |
| Vladislav Alexandrov | |
| Printed Name in English | Printed Name in Native Language (if |
| | other than English) |

PATENT REEL: 040860 FRAME: 0808

RECORDED: 01/05/2017