#### 01/08/2016 503641845

### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3688478

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

#### **CONVEYING PARTY DATA**

| Name                         | Execution Date |
|------------------------------|----------------|
| OLIVER ARTHUR WHYTE          | 12/29/2015     |
| ROSS CUTLER                  | 01/07/2016     |
| AVRONIL BHATTACHARJEE        | 12/28/2015     |
| ADARSH PRAKASH MURTHY KOWDLE | 12/24/2015     |
| ADAM KIRK                    | 12/31/2015     |
| STANLEY T. BIRCHFIELD        | 12/22/2015     |
| CHA ZHANG                    | 12/28/2015     |

#### **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: | 14991847 |

#### **CORRESPONDENCE DATA**

Fax Number: (425)936-7329

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: 425-707-9382

Email: USDocket@microsoft.com

**Correspondent Name: ASSAL MEFTAHI** 

ONE MICROSOFT WAY Address Line 1:

Address Line 2: PATENT GROUP DOCKETING DEPT Address Line 4: REDMOND, WASHINGTON 98052

| ATTORNEY DOCKET NUMBER: | 358697.01             |
|-------------------------|-----------------------|
| NAME OF SUBMITTER:      | VLADIMIR A. KOZYREV   |
| SIGNATURE:              | /Vladimir A. Kozyrev/ |
| DATE SIGNED:            | 01/08/2016            |

PAIENI **REEL: 037444 FRAME: 0303** 503641845

| Total Attachments: 14                            |
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PATENT REEL: 037444 FRAME: 0304

| I <u>Oliver Arthur Whyte</u> ("ASSIGNOR") am the original inventor or an original joint       |
|---|
| inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent                 |
| application entitled " <u>ACTIVE SPEAKER LOCATION DETECTION</u> " ("APPLICATION"), which:     |
|   |
| oxtimes will be filed. ASSIGNOR hereby authorizes, and requests,                              |
| 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 January 8, 2016 and given Application No. $\frac{14/991,847}{}$ by                  |
| the following Office) this  |
| APPLICATION's Application No., filing date, and Office, when known;                           |
|   |
| $\square$ was filed on and was given Application No   |
| by the following Office "";   |
|   |
| 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  |
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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).

| Other                   | 12/29/2015                      |
|-------------------------|---------------------------------|
| Inventor's Signature    | Date                            |
| Oliver Arthur Whyte     |                                 |
| Printed Name in English | Printed Name in Native Language |
|                         | (if other than English)         |

# PATENT ASSIGNMENT MS Docket No.: 358697.01

| I <u>Ross Cutler</u> ("ASSIGNO    | R") am the original invento  | or or an original joint inventor              |
|-----------------------------------|------------------------------|---|
| of subject matter ("INVENTIO      | N") disclosed and/or clai    | imed in a patent application                  |
| entitled "ACTIVE SPEAKER LOCA     | ATION DETECTION" ("APPLI     | CATION"), which:                              |
|                                   |                              |   |
| oxtimes will be filed.            | ASSIGNOR hereby auth         | orizes, and requests,                         |
|                                   | representative, Microsoft    | 5,  |
| ·                                 | ft Way, Redmond, Washing     | · ·   |
|                                   | ATIVES), to insert here in I |   |
|                                   |                              | d given Application No. <sup>14/991</sup> ,84 |
|                                   | Office                       |   |
| APPLICATION'S A                   | Application No., filing da   | ate, and Office, when                         |
| known;                            |                              |   |
| _                                 |                              |   |
|                                   | and was given                |   |
| by the following (                | Office "                     |   |
|                                   |                              |   |
| Microsoft Technology Li           | censing, LLC, a Washingto    | n limited liability company, on               |
| behalf of itself and its succe    | ssors and assigns ("ASSI     | GNEE"), is entitled to, and is                |
| desirous of acquiring, the enti   | re and exclusive rights, ti  | tle and interest, including the               |
| right of priority, in the INVENTI | ON and the APPLICATION       | (and all other applications and               |
| patents derived therefrom, suc    | h as continuing applicatio   | ns, in whole or in part, in and               |
| for the United States, its        | territories, and all forei   | ign countries ("APPLICATION                   |
| DERIVATIVES"));                   |                              |   |
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| •                                 | •                            | uests, ASSIGNEE'S LEGAL                       |
| REPRESENTATIVES to insert t       |                              |   |
| following table for any APPLICA   | TION DERIVATIVES after th    |   |
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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).

| Ral                     |                                 |
|-------------------------|---------------------------------|
|                         | 1/7/16                          |
| Inventor's Signature    | Date                            |
| Ross Cutler             |                                 |
| Printed Name in English | Printed Name in Native Language |
|                         | (if other than English)         |
|                         |                                 |

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|---------------|--------|------------|---------|----------|--------------|---------|---------|--------------|--------|---------|-------|---------|
| inventor of   |        |            |         | ,        | ,            |         |         |              |        |         | _     | •       |
| application e |        |            |         | ,        | ·            |         |         | ·            |        |         |       | •       |
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| 5-7           |        |            |         |          |              |         |         |              |        |         |       |         |
| $\boxtimes$   | will   | be         | filed.  | ASSIGN   | IOR h        | ereby   | autho   | rizes,       | and    | reque   | sts,  |         |

| ASSIGNEE'S legal representative, Microsoft Technology Lie    | censing   |
|--|-----------|
| LLC, One Microsoft Way, Redmond, Washington 98052 (ASS       | IGNEE'S   |
| LEGAL REPRESENTATIVES), to insert here in parentheses        |           |
| (filed on January 8, 2016 and given Application No. 14/991,  | 847_ by   |
| the following Office   | ) this    |
| APPLICATION's Application No., filing date, and Office, when | known     |
| was filed on and was given Application No                    |           |
| by the following Office "                                    | ".<br>_ ' |
|  |           |

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 |
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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    | Dec 28, 2015<br>Date                                    |
|-------------------------|---|
| Avronil Bhattacharjee   |   |
| Printed Name in English | Printed Name in Native Language (if other than English) |

|  |  | •  | m the original inventor or an disclosed and/or claimed in a   |
|--|--|--|---|
|  | <u>-</u>   |  | <u>DETECTION</u> " ("APPLICATION"),   |
| $\boxtimes$  | will be filed.   | ASSIGNOR hereby auth   | orizes, and requests,   |
|  | LLC, One Microso<br>LEGAL REPRESENT<br>(filed on <u>Janu</u><br>by the following C                         | representative, Microsoft<br>ft Way, Redmond, Washing<br>ATIVES), to insert here in<br>ary 8, 2016 and<br>Office<br>application No., filing da | gton 98052 (ASSIGNEE'S parentheses d given Application No. <sup>14/991</sup> ,847) this   |
|  | was filed on   | and was given  | Application No  |
|  | by the following C   | Office "   | ".  |
| behalf of its<br>desirous of a<br>right of prior<br>patents deriv  | elf and its succe<br>acquiring, the enti<br>ity, in the INVENTI<br>red therefrom, suc<br>ted States, its t | ssors and assigns ("ASSI<br>re and exclusive rights, ti<br>ON and the APPLICATION<br>h as continuing application                               | n limited liability company, on GNEE"), is entitled to, and is tle and interest, including the (and all other applications and ons, in whole or in part, in and ign countries ("APPLICATION |
| ASSIGI   | •  | •  | uests, ASSIGNEE'S LEGAL   |
|  |  | • •  | g date, and Office into the<br>nev are known:   |
| following table for any APPLICATION DERIVATIVES after they are known; Application No. Filing Date Office |  |  |   |
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Page 1 of 2

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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| KP Adarsh                    | 12/24/2015                      |
|------------------------------|---------------------------------|
| Inventor's Signature         | Date                            |
| Adarsh Prakash Murthy Kowdle | _                               |
| Printed Name in English      | Printed Name in Native Language |
|                              | (if other than English)         |

# PATENT ASSIGNMENT MS Docket No.: 358697.01

| I <u>Adam Kirk</u> ("ASSIGNOR"    | ) am the original inventor   | or an original joint inventor of               |
|-----------------------------------|------------------------------|--|
| subject matter ("INVENTION") d    | isclosed and/or claimed in   | n a patent application entitled                |
| "ACTIVE SPEAKER LOCATION DE       | TECTION" ("APPLICATION"      | ), which:                                      |
|                                   |                              |  |
| 🛚 will be filed.                  | ASSIGNOR hereby auth         | orizes, and requests,                          |
| ASSIGNEE'S legal                  | representative, Microsoft    | Technology Licensing,                          |
| LLC, One Microsof                 | ft Way, Redmond, Washing     | jton 98052 (ASSIGNEE'S                         |
|                                   | ATIVES), to insert here in p |  |
| (filed onJ                        | anuary 8, 2016 and           | l given Application No. <sup>14/991</sup> ,847 |
| by the following (                | Office                       | ) this   |
| APPLICATION'S A                   | pplication No., filing da    | ate, and Office, when                          |
| known;                            |                              |  |
|                                   |                              |  |
| $\square$ was filed on $\_\_$     | and was given .              | Application No                                 |
|                                   | Office "                     |  |
|                                   |                              |  |
| Microsoft Technology Lic          | censing, LLC, a Washington   | n limited liability company, on                |
| behalf of itself and its succes   | ssors and assigns ("ASSIC    | GNEE"), is entitled to, and is                 |
| desirous of acquiring, the enti   | re and exclusive rights, ti  | tle and interest, including the                |
| right of priority, in the INVENTI | ON and the APPLICATION       | (and all other applications and                |
| patents derived therefrom, suc    | h as continuing applicatio   | ns, in whole or in part, in and                |
| for the United States, its t      | erritories, and all forei    | gn countries ("APPLICATION                     |
| DERIVATIVES"));                   |                              |  |
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| REPRESENTATIVES to insert tl      |                              |  |
| following table for any APPLICA   |                              |  |
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| 11                      |                                 |
|-------------------------|---------------------------------|
| B                       | 12/31/15                        |
| Inventor's Signature    | Date                            |
| Adam Kirk               |                                 |
| Printed Name in English | Printed Name in Native Language |
|                         | (if other than English)         |

| MS Docket No.: | <u>358697.01                                    </u> |
|----------------|--|
|----------------|--|

I <u>Stanley T. Birchfield</u> ("ASSIGNOR") am the original inventor or an original joint inventor of subject matter ("INVENTION") disclosed and/or claimed in a patent application entitled "<u>ACTIVE SPEAKER LOCATION DETECTION</u>" ("APPLICATION"), which:

| X | will be filed. ASSIGNOR hereby authorizes, and requests,   |
|---|--|
|   | 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   |
|   | APPLICATION's Application No., filing date, and Office, when known;  |
|   | was filed on and was given Application No by the following Office "";  |
|   |  |

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;

| e constant | Application No. | Filing Date | Office |
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| SHUT BULL               | 12/22/15                        |
|-------------------------|---------------------------------|
| Inventor's Śignature    | Date                            |
| Stanley T. Birchfield   |                                 |
| Printed Name in English | Printed Name in Native Language |
|                         | (if other than English)         |

| I <u>Cha Zhang</u> ("ASSIGNOR         | ") am the original invento   | or or an original joint inventor               |
|---------------------------------------|------------------------------|--|
| of subject matter ("INVENTIOI         | N") disclosed and/or clai    | med in a patent application                    |
| entitled " <u>ACTIVE SPEAKER LOCA</u> | TION DETECTION" ("APPLI      | CATION"), which:                               |
|                                       |                              |  |
| oxtimes will be filed.                | ASSIGNOR hereby auth         | orizes, and requests,                          |
| ASSIGNEE'S legal                      | representative, Microsoft    | Technology Licensing,                          |
| LLC, One Microsof                     | ft Way, Redmond, Washing     | gton 98052 (ASSIGNEE'S                         |
|                                       | ATIVES), to insert here in p |  |
| (filed onJa                           | nuary 8, 2016 and            | l given Application No. <sup>14/991</sup> ,847 |
| by the following C                    | Office                       | ) this   |
| APPLICATION'S A                       | pplication No., filing da    | ate, and Office, when                          |
| known;                                |                              |  |
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| was filed on                          | and was given                | Application No                                 |
| by the following C                    | Office "                     |  |
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| <del>-</del> •                        | _                            | n limited liability company, on                |
| behalf of itself and its succes       | <del>-</del>                 |  |
| desirous of acquiring, the enti       | <del>-</del>                 | ·  |
| right of priority, in the INVENTI     |                              | • •  |
| patents derived therefrom, suc        | <del>-</del>                 |  |
| for the United States, its t          | erritories, and all forei    | gn countries ("APPLICATION                     |
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MS Docket No.: 358697.01

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"));

RECORDED: 01/08/2016

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).

| 20                      | 12/28/2015  |
|-------------------------|---|
| Inventor's Signature    | Date  |
| Cha Zhang               | 张察  |
| Printed Name in English | Printed Name in Native Language (if other than English) |