504266364 03/10/2017

PATENT ASSIGNMENT COVER SHEET

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| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|---------------------------|----------------|
| EHAB SOBHY DERAZ | 03/07/2017 |
| THOMAS ALEXANDER MORRISON | 02/17/2017 |

RECEIVING PARTY DATA

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| City: | REDMOND | |
| State/Country: | WASHINGTON | |
| Postal Code: | 98052 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15451904 |

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| ATTORNEY DOCKET NUMBER: | 401152-US-NP |
|-------------------------|-------------------|
| NAME OF SUBMITTER: | DAVID J. BOVITZ |
| SIGNATURE: | /David J. Bovitz/ |
| DATE SIGNED: | 03/10/2017 |

Total Attachments: 4

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PATENT 504266364 REEL: 041536 FRAME: 0782

MS Docket No.:401152-US-NP

I <u>Ehab Sobhy Deraz</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>DYNAMICALLY REGISTERED FUNCTIONS FOR CALCULATION ENGINES</u>" ("APPLICATION"), which:

| \times | will | be | filed. | ASSIGNOR | hereby | authorizes, | and | requests, |
|----------|-------|-------|----------------------|----------------------|-----------|----------------|-------------|-------------|
| | ASSI | GNEI | E'S legal | representat | ive, Micr | osoft Techno | logy | Licensing, |
| | LLC. | , One | e Microso | oft Way, Redr | nond, Wa | ashington 980 |)52 (A | SSIGNEE'S |
| | LEG/ | AL R | EPRESEN [®] | TATIVES), to | insert h | ere in paren | theses | (filed on |
| | | | | and give | n Applica | ation No | | by |
| | the f | ollo | wing Offi | ce <u>US – Unite</u> | d States | Patent and Tr | <u>adem</u> | ark Office) |
| | this | APPI | LICATION | l's Application | on No., 1 | filing date, a | nd Of | fice, when |
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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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| PATENT ASSIGNMENT | MS | Docket No.: <u>401152-US-NP</u> |
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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).

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|-------------------------|---------------------------------|
| Inventor's Signature | Date |
| Ehab Sobhy Deraz | |
| Printed Name in English | Printed Name in Native Language |
| | (if other than English) |

MS Docket No.:401152-US-NP

I <u>Thomas Alexander Morrison</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>DYNAMICALLY REGISTERED FUNCTIONS FOR CALCULATION ENGINES</u>" ("APPLICATION"), which:

| \times | will | be | filed. | ASSIGNOR | hereby | authoriz | zes, | and | req | uests, |
|----------|-------|-------|-----------|----------------------|-----------|------------------|--------|---------------|-------|---------|
| | ASSI | GNE | E'S legal | representat | ive, Micr | osoft Te | chno | logy | Licer | nsing, |
| | LLC. | , One | e Microso | oft Way, Redi | nond, Wa | ashingtor | 1 980 |)52 (A | SSIG | NEE'S |
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| | 02/1482017 |
|---------------------------|---------------------------------|
| Inventor's Signature | Date |
| Thomas Alexander Morrison | |
| Printed Name in English | Printed Name in Native Language |
| | (if other than English) |