503552157 11/03/2015 PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3598784

| SUBMISSION TYPE: | | NEW ASSIGNMENT | | |
|--|-----------------------|--|--|--------------|
| NATURE OF CONVEYANCE: | | ASSIGNMENT | | |
| CONVEYING PARTY D | ΑΤΑ | | | |
| | | Name | E | ecution Date |
| YUK L. CHAN | | | 10/ | 21/2015 |
| MICHAEL D. ESSENMA | CHER | | 10/ | 21/2015 |
| DAVID B. LECTION | | | 10/ | 22/2015 |
| ERIC L. MASSELLE | | | 10/ | 21/2015 |
| RECEIVING PARTY DA | | | | |
| Name: | INTER | NATIONAL BUSINESS MACHINES | CORPORATION | |
| Street Address: | NEW C | RCHARD ROAD | | |
| City: | ARMO | NK | | |
| State/Country: | NEW Y | ORK | | |
| Postal Code: | 10504 | 10504 | | |
| | | | | |
| | 5 Total: 1 | | | |
| Property Type | | Number | | |
| | | 1/10/201/1/2 | | |
| Application Number: | | 14930713 | | |
| CORRESPONDENCE | | | | |
| CORRESPONDENCE I | | (404)607-9981 | | |
| CORRESPONDENCE I Fax Number: <i>Correspondence will b</i> | e sent to | (404)607-9981 • the e-mail address first; if that i | | vill be sent |
| CORRESPONDENCE I Fax Number: <i>Correspondence will b</i> | e sent to provideo | (404)607-9981 | | vill be sent |
| CORRESPONDENCE I Fax Number: <i>Correspondence will b</i> <i>using a fax number, if</i> | e sent to provideo | (404)607-9981 5 the e-mail address first; if that i 1; if that is unsuccessful, it will b 4046079991 usptopatentmail@cantorcolburn.co | e sent via US Mail. | vill be sent |
| CORRESPONDENCE I Fax Number: <i>Correspondence will &</i> <i>using a fax number, if</i> Phone: Email: Correspondent Name: | e sent to provideo | (404)607-9981 5 the e-mail address first; if that i 1; if that is unsuccessful, it will b 4046079991 usptopatentmail@cantorcolburn.co CANTOR COLBURN LLP | e <i>sent via US Mail.</i> m | vill be sent |
| CORRESPONDENCE I Fax Number: <i>Correspondence will b</i> <i>using a fax number, if</i> Phone: Email: Correspondent Name: Address Line 1: | e sent to provideo | (404)607-9981 5 the e-mail address first; if that i 4 if that is unsuccessful, it will b 4046079991 usptopatentmail@cantorcolburn.co CANTOR COLBURN LLP 20 CHURCH STREET, 22ND FLO | e <i>sent via US Mail.</i> m DR | vill be sent |
| CORRESPONDENCE I Fax Number: <i>Correspondence will &</i> <i>using a fax number, if</i> Phone: Email: Correspondent Name: | e sent to provideo | (404)607-9981 5 the e-mail address first; if that i 1; if that is unsuccessful, it will b 4046079991 usptopatentmail@cantorcolburn.co CANTOR COLBURN LLP | e <i>sent via US Mail.</i> m DR | vill be sent |
| CORRESPONDENCE I Fax Number: <i>Correspondence will b</i> <i>using a fax number, if</i> Phone: Email: Correspondent Name: Address Line 1: Address Line 4: | e sent to provideo | (404)607-9981 5 the e-mail address first; if that i 4 if that is unsuccessful, it will b 4046079991 usptopatentmail@cantorcolburn.co CANTOR COLBURN LLP 20 CHURCH STREET, 22ND FLO | e <i>sent via US Mail.</i> m DR | vill be sent |
| CORRESPONDENCE I Fax Number: <i>Correspondence will b</i> <i>using a fax number, if</i> Phone: Email: Correspondent Name: Address Line 1: | e sent to provideo | (404)607-9981 b the e-mail address first; if that i if that is unsuccessful, it will b 4046079991 usptopatentmail@cantorcolburn.co CANTOR COLBURN LLP 20 CHURCH STREET, 22ND FLO HARTFORD, CONNECTICUT 061 | e <i>sent via US Mail.</i> m DR | vill be sent |
| CORRESPONDENCE I Fax Number: <i>Correspondence will &</i> <i>using a fax number, if</i> Phone: Email: Correspondent Name: Address Line 1: Address Line 4: | e sent to provideo | (404)607-9981 b the e-mail address first; if that i i; if that is unsuccessful, it will b 4046079991 usptopatentmail@cantorcolburn.co CANTOR COLBURN LLP 20 CHURCH STREET, 22ND FLO HARTFORD, CONNECTICUT 061 POU920150301US1 | e <i>sent via US Mail.</i> m DR | vill be sent |
| CORRESPONDENCE I Fax Number: Correspondence will b using a fax number, if Phone: Email: Correspondent Name: Address Line 1: Address Line 4: ATTORNEY DOCKET N NAME OF SUBMITTER: | e sent to provideo | (404)607-9981 b the e-mail address first; if that i if that is unsuccessful, it will b 4046079991 usptopatentmail@cantorcolburn.co CANTOR COLBURN LLP 20 CHURCH STREET, 22ND FLO HARTFORD, CONNECTICUT 061 POU920150301US1 JEFFREY L. WATERS | e <i>sent via US Mail.</i> m DR | vill be sent |
| CORRESPONDENCE I Fax Number: <i>Correspondence will b</i> <i>using a fax number, if</i> Phone: Email: Correspondent Name: Address Line 1: Address Line 4: ATTORNEY DOCKET N NAME OF SUBMITTER: SIGNATURE: | e sent to provideo | (404)607-9981 b the e-mail address first; if that is fi that is unsuccessful, it will b 4046079991 usptopatentmail@cantorcolburn.co CANTOR COLBURN LLP 20 CHURCH STREET, 22ND FLO HARTFORD, CONNECTICUT 061 POU920150301US1 JEFFREY L. WATERS /jeffreylwaters53749/ | e <i>sent via US Mail.</i> m DR 03-3207 | |
| CORRESPONDENCE I Fax Number: Correspondence will b using a fax number, if Phone: Email: Correspondent Name: Address Line 1: Address Line 4: ATTORNEY DOCKET N NAME OF SUBMITTER: SIGNATURE: | e sent to provideo | (404)607-9981 b the e-mail address first; if that is 4046079991 usptopatentmail@cantorcolburn.co CANTOR COLBURN LLP 20 CHURCH STREET, 22ND FLO HARTFORD, CONNECTICUT 061 POU920150301US1 JEFFREY L. WATERS /jeffreylwaters53749/ 11/03/2015 | e <i>sent via US Mail.</i> m DR 03-3207 | |

DECLARATION (37 C.F.R. 1.63) FOR UTILITY PATENT APPL/CATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76) AND ASSIGNMENT

Title of Invention: ENVIRONMENTALLY ADAPTIVE OLFACTORY GENERATION

As a below named and undersigned inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

Whereas, I ("ASSIGNOR") have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application and further identified by the IBM Docket Number provided above in the header of this document;

Whereas, International Business Machines Corporation (herein referred to as the "ASSIGNEE"), a corporation of New York having a place of business at Armonk, New York, desires to acquire, and I desire to grant to the ASSIGNEE, my entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by me had this Assignment not been made; and I agree to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or perfecting title to the Invention and all

Page 1 of 2

related patents and applications, in the ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns.

I acknowledge my prior and ongoing obligations to sell, assign, and transfer my rights under this Assignment to the ASSIGNEE and am unaware of any reason why I may not have the full and unencumbered right to sell, assign, and transfer my rights hereby sold, assigned, and transferred, and have not executed, and will not execute, any document or instrument in conflict herewith. I also hereby grant the ASSIGNEE, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of New York, and any disputes will be resolved in a New York state court or federal court sited in New York.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

(1) Legal Name of Inventor: YUK L. CHAN

Much _____ Date: $\frac{|0/21/2015}{}$ Signature:_

(2) Legal Name of Inventor: MICHAEL D. ESSENMACHER

| Signature: | Deter |
|------------|-------|
| | Date; |

(3) Legal Name of Inventor: DAVID B. LECTION

| Signature: | | Date: | | |
|-----------------------------|------------------|-------|---|--|
| (4) Legal Name of Inventor: | ERIC L. MASSELLE | | | |
| Signature: | | Date: | - | |

Page 2 of 2

DECLARATION (37 C.F.R. 1.63) FOR UTILITY PATENT APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76) AND ASSIGNMENT

Title of Invention: ENVIRONMENTALLY ADAPTIVE OLFACTORY GENERATION

As a below named and undersigned inventor. I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

Whereas, 1 ("ASSIGNOR") have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application and further identified by the IBM Docket Number provided above in the header of this document:

Whereas. International Business Machines Corporation (herein referred to as the "ASSIGNEE"), a corporation of New York having a place of business at Armonk. New York, desires to acquire, and I desire to grant to the ASSIGNEE, my entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto:

Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged. I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by me had this Assignment not been made: and I agree to execute any and all documents and instruments and perform all law ful acts reasonably related to recording this Assignment or perfecting title to the Invention and all



related patents and applications, in the ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns.

Lacknowledge my prior and ongoing obligations to sell, assign, and transfer my rights under this Assignment to the ASSIGNEE and am unaware of any reason why I may not have the full and unencumbered right to sell, assign, and transfer my rights hereby sold, assigned, and transferred, and have not executed, and will not execute, any document or instrument in conflict herewith. Talso hereby grant the ASSIGNEE, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of New York, and any disputes will be resolved in a New York state court or federal court sited in New York.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

(1) Legal Name of Inventor: YUK L. CHAN

| Signature: | Date |
|------------|-------|
| | Date: |

(2) Legal Name of Inventor: MICHAEL D. ESSENMACHER

Signature: Michael D. Essencel Date: 10/21/2015

(3) Legal Name of Inventor: DAVID B. LECTION

| Signature: | Date | |
|------------|------|--|
| | | |

(4) Legal Name of Inventor: ERIC L. MASSELLE

Signature:_____ Date:_____

Page 2 of 2

DECLARATION (37 C.F.R. 1.63) FOR UTILITY PATENT APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76) AND ASSIGNMENT

Title of Invention: ENVIRONMENTALLY ADAPTIVE OLFACTORY GENERATION

As a below named and undersigned inventor, I hereby declare that:

This declaration is directed to the attached application, or (if following box is checked):

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

Whereas, I ("ASSIGNOR") have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application and further identified by the IBM Docket Number provided above in the header of this document;

Whereas, International Business Machines Corporation (herein referred to as the "ASSIGNEE"), a corporation of New York having a place of business at Armonk, New York, desires to acquire, and I desire to grant to the ASSIGNEE, my entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto;

Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged, I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by me had this Assignment not been made; and I agree to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or perfecting title to the Invention and all

Page 1 of 2

I

related patents and applications, in the ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns.

I acknowledge my prior and ongoing obligations to sell, assign, and transfer my rights under this Assignment to the ASSIGNEE and am unaware of any reason why I may not have the full and unencumbered right to sell, assign, and transfer my rights hereby sold, assigned, and transferred, and have not executed, and will not execute, any document or instrument in conflict herewith. I also hereby grant the ASSIGNEE, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of New York, and any disputes will be resolved in a New York state court or federal court sited in New York.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

| | Signature: | _ Date: |
|-----|--|-------------------|
| (2) | Legal Name of Inventor: MICHAEL D. ESSENMACHER | |
| | Signature: | Date: |
| (3) | Legal Name of Inventor: DAVID B. LECTION | |
| | Signature: D&AYT | _Date: 10-22-2015 |
| (4) | Legal Name of Inventor: ERIC L. MASSELLE | |
| | Signature: | Date: |

(1) Legal Name of Inventor: YUK L. CHAN

Page 2 of 2

ł

DECLARATION (37 C.F.R. 1.63) FOR UTILITY PATENT APPLICATION USING AN APPLICATION DATA SHEET (37 C.F.R. 1.76) AND ASSIGNMENT

Title of Invention: ENVIRONMENTALLY ADAPTIVE OLFACTORY GENERATION

As a below named and undersigned inventor. I hereby declare that-

This declaration is directed to the attached application, or (if following box is checkec.):

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR Section 1.56.

Whereas, I ("ASSIGNOR") have made certain inventions, improvements, and discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application and further identified by the IBM Docket Number provided above in the header of this document;

Whereas, International Business Machines Corporation (herein referred to as the "ASSIGNEE"), a corporation of New York having a place of business at Armonk, New York, desires to acquire, and I desire to grant to the ASSIGNEE, my entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents directed thereto:

Now, therefore, for good and valuable consideration, the receipt and sufficiency thereof being hereby acknowledged. I hereby sell or have sold, assign or have assigned, and otherwise transfer or have transferred to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefor in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, and foreign patent authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE, its successors, legal representatives, and assigns, my entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, its successors, legal representatives, and assigns to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by me had this Assignment not been made; and I agree to execute any and all documents and instruments and perform all law ful acts reasonably related to recording this Assignment or perfecting title to the Invention and all

Page 1 of 2

related patents and applications, in the ASSIGNEE, its successors, legal representatives, and assigns, whenever requested by the ASSIGNEE, its successors, legal representatives, or assigns.

I acknowledge my prior and ongoing obligations to sell, assign, and transfer my rights under this Assignment to the ASSIGNEE and am unaware of any reason why I may not have the full and unerscumbered right to sell, assign, and transfer my rights hereby sold, assigned, and transferred, and have not executed, and will not execute, any document or instrument in conflict herewith. I also hereby grant the ASSIGNEE, its successors, legal representatives, and assigns, the right to insert in this Assignment any further identification (including, but not limited to, patent Application Number) which may be necessary or desirable for recordation of this Assignment. This Assignment is governed by the substantive laws of the State of New York, and any disputes will be resolved in a New York state court or federal court stred in New York.

1 hereby acknowledge that any willful false statement made in this declaration is punishable under $18 \pm 5 \pm 1001$ by fine or imprisonment of not more than five (5) years, or both.

| Giv Legal Name of Inventor: YUK L. CHAN | |
|---|------------------|
| Signatur | Date: |
| 2) Legal Name of Inventor: MICHAEL D. ESSENMACHER | |
| Signature: | Date: |
| 13+ Legal Name of Inventor: DAVID B. LECTION | |
| Ngaature | Date: |
| 4 Legal Name of Inventor: ERIC L. MASSELLE | |
| ment Estil Manselle | Date: 10.21.2015 |
| | |

RECORDED: 11/03/2015