

05-31-2000

Docket No.: Y0999-598

FORM PTO-1585 (Modified)  
(Rev. 6-93)  
OMB No. 0651-0011 (exp. 4/94)  
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P08A/REV02



SHEET

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

Y

101369328

Tab settings

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

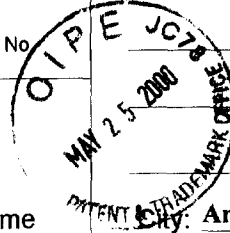
MRD 5-25-00

1. Name of conveying party(ies):  
1. Kanad Chakraborty 2. Wilm Ernst Donath,  
3. Prabhakar Nandavar Kudva 4. Lakshmi Narasimha Reddy  
5. Leon Stok 6. Andrew James Sullivan  
7. Paul Gerard Villarrubia

2. Name and address of receiving party(ies):  
Name: International Business Machines Corporation  
Address: New Orchard Road

Additional names(s) of conveying party(ies) attached?  Yes  No

3. Nature of conveyance:  
 Assignment  Merger  
 Security Agreement  Change of Name  
 Other



City: Armonk State/Prov.: NY  
Country: USA ZIP: 10504

Execution Date: 1-4. 03/07/00; 5. 03/08/00; 6. 03/09/00  
7. 03/10/00

Additional name(s) & address(es) attached?  Yes  No

4. Application number(s) or registration numbers(s):

If this document is being filed together with a new application, the execution date of the application is:

Patent Application No. Filing date  
09/524,408 March 13, 2000

B. Patent No.(s)

05/26/2000 TTRAN1 00000075 09524408  
02 FC:581 40.00 OP

Additional numbers attached?  Yes  No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Sean M. McGinn, Esq.  
Registration No. Reg. No. 34,386  
Address: McGinn and Gibb, P.C.  
1701 Clarendon Boulevard  
Suite 100  
City: Arlington State/Prov.: VA  
Country: USA ZIP: 22209

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41):.....\$ 40.00

Enclosed - Any excess or insufficiency should be credited or debited to deposit account  
 Authorized to be charged to deposit account

8. Deposit account number:  
50-0489

DO NOT USE THIS SPACE

9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Sean M. McGinn, Esq.

May 25, 2000

Name of Person Signing

Signature

Date

Total number of pages including cover sheet, attachments, and document:

14

# ASSIGNMENT

Whereas, we

<b>Inventor and City</b>	(1) Kanad Chakraborty County of Morris	City of Mt. Arlington and State of New Jersey
	(2) Wilm Ernst Donath County of New York	City of New York and State of New York
	(3) Prabhakar Nandavar Kudva County of Westchester	City of White Plains and State of New York
	(4) Lakshmi Narasimha Reddy County of Westchester	City of Ossining and State of New York
	(5) Leon Stok County of Westchester	City of Croton-on-Hudson and State of New York
	(6) Andrew James Sullivan County of Dutchess	City of Wappingers Falls and State of New York
	(7) Paul Gerard Villarrubia County of Williamson	City of Round Rock and State of Texas

have invented certain improvements in

**Title**            **METHOD AND APPARATUS FOR APPLYING FINE-GRAINED TRANSFORMS DURING PLACEMENT SYNTHESIS INTERACTION**

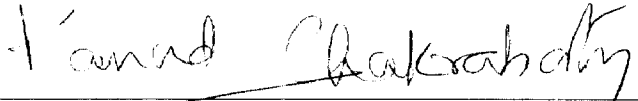
**Dates That Inventors Signed the Declaration**    **and have executed, respectively, a United States patent application therefor on**

(1) March 7, 2000, (2) March 7, 2000, (3) March 7, 2000, (4) March 7, 2000,  
(5) March 8, 2000, (6) 2000, and (7) 2000.


Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York, 10504, (hereinafter called IBM), desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefor;

Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, we the above named hereby sell, assign, and transfer to IBM, its successors and assigns, the entire right, title and interest in the said application and invention therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of said United States application, and we request the Commissioner of Patents to issue any Letters Patent granted upon the invention set forth in said application to IBM, its successors and assigns; and we hereby agree that IBM may apply for foreign Letters Patent on said invention and we will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by IBM.

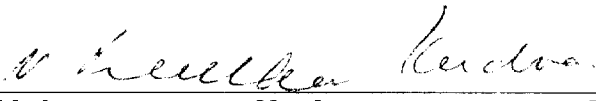
City (1) Signed at Yorktown Hgts., NY  
Date on March 7, 2000

  
\_\_\_\_\_  
( Kanad Chakraborty ) signature  
First Name Middle Initial Last Name ) inventor

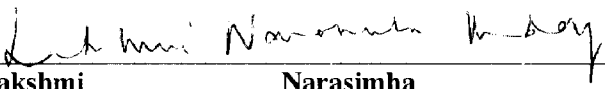
City (2) Signed at Yorktown Hgts., NY  
Date on March 7, 2000

  
\_\_\_\_\_  
( Wilm Ernst Donath ) signature  
First Name Middle Name Last Name ) inventor

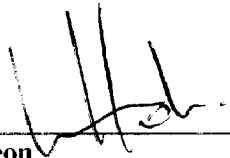
City (3) Signed at Yorktown Hgts., NY  
Date on March 7, 2000

  
\_\_\_\_\_  
( Prabhakar Nandavar Kudva ) signature  
First Name Middle Name Last Name ) inventor

City (4) Signed at Yorktown Hgts., NY  
Date on March 7, 2000

  
\_\_\_\_\_  
( Lakshmi Narasimha Reddy ) signature  
First Name Middle Name Last Name ) inventor

City (5) Signed at Yorktown Hgts., NY  
Date on March 8, 2000

  
\_\_\_\_\_  
( Leon Stok ) signature  
First Name Middle Initial Last Name ) inventor


City (6) Signed at  
Date on

\_\_\_\_\_  
( Andrew James Sullivan ) signature  
First Name Middle Name Last Name ) inventor

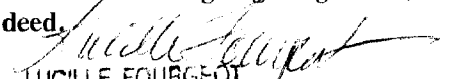
City (7) Signed at  
Date on

\_\_\_\_\_  
( Paul Gerard Villarrubia ) signature  
First Name Middle Name Last Name ) inventor


Inventor (1) On this 7th day of March, 2000, before me personally came Kanad Chakraborty to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001


Inventor (2) On this 7th day of March, 2000, before me personally came Wilm Ernst Donath to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001


Inventor (3) On this 7th day of March, 2000, before me personally came Prabhakar N. Kudva to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001

Inventor (4) On this 7th day of March, 2000, before me personally came Lakshmi N. Reddy to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001

Inventor (5) On this 8th day of March, 2000, before me personally came Leon Stok to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

  
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NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001

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Inventor (7) On this \_\_\_\_\_ day of \_\_\_\_\_, 2000, before me personally came \_\_\_\_\_ to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

\_\_\_\_\_

# ASSIGNMENT

Whereas, we

Inventor and City	(1) Kanad Chakraborty County of Morris	City of Mt. Arlington and State of New Jersey
	(2) Wilm Ernst Donath County of New York	City of New York and State of New York
	(3) Prabhakar Nandavar Kudva County of Westchester	City of White Plains and State of New York
	(4) Lakshmi Narasimha Reddy County of Westchester	City of Ossining and State of New York
	(5) Leon Stok County of Westchester	City of Croton-on-Hudson and State of New York
	(6) Andrew James Sullivan County of Dutchess	City of Wappingers Falls and State of New York
	(7) Paul Gerard Villarrubia County of Williamson	City of Round Rock and State of Texas

have invented certain improvements in

Title           **METHOD AND APPARATUS FOR APPLYING FINE-GRAINED TRANSFORMS  
DURING PLACEMENT SYNTHESIS INTERACTION**

Dates That       and have executed, respectively, a United States patent application therefor on

Inventors  
Signed the       (1) March 7, 2000, (2) March 7, 2000, (3) March 7, 2000, (4) March 7, 2000,  
Declaration     (5) March 8, 2000, (6) *March 8<sup>9</sup>*, 2000, and (7) 2000.

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York, 10504, (hereinafter called IBM), desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefor;

Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, we the above named hereby sell, assign, and transfer to IBM, its successors and assigns, the entire right, title and interest in the said application and invention therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of said United States application, and we request the Commissioner of Patents to issue any Letters Patent granted upon the invention set forth in said application to IBM, its successors and assigns; and we hereby agree that IBM may apply for foreign Letters Patent on said invention and we will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by IBM.

City (1) Signed at Yorktown Hgts., NY  
Date on March 7, 2000

Kanad Chakraborty signature  
( Kanad Chakraborty ) inventor  
First Name Middle Initial Last Name

City (2) Signed at Yorktown Hgts., NY  
Date on March 7, 2000

Wilm Ernst Donath signature  
( Wilm Ernst Donath ) inventor  
First Name Middle Name Last Name

City (3) Signed at Yorktown Hgts., NY  
Date on March 7, 2000

Prabhakar Nandavar Kudva signature  
( Prabhakar Nandavar Kudva ) inventor  
First Name Middle Name Last Name

City (4) Signed at Yorktown Hgts., NY  
Date on March 7, 2000

Lakshmi Narasimha Reddy signature  
( Lakshmi Narasimha Reddy ) inventor  
First Name Middle Name Last Name

City (5) Signed at Yorktown Hgts., NY  
Date on March 8, 2000

Leon Stok signature  
( Leon Stok ) inventor  
First Name Middle Initial Last Name

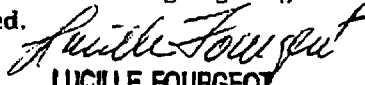
City (6) Signed at East Fishkill, NY  
Date on March 9, 2000

Andrew James Sullivan signature  
( Andrew James Sullivan ) inventor  
First Name Middle Name Last Name


City (7) Signed at  
Date on

Paul Gerard Villarrubia signature  
( Paul Gerard Villarrubia ) inventor  
First Name Middle Name Last Name

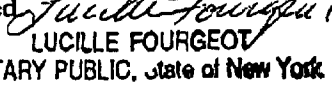
Inventor (1) On this 7th day of March, 2000, before me personally came Kanad Chakraborty to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001


Inventor (2) On this 7th day of March, 2000, before me personally came Wilm Ernst Donath to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001


Inventor (3) On this 7th day of March, 2000, before me personally came Prabhakar N. Kudva to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001

Inventor (4) On this 7th day of March, 2000, before me personally came Lakshmi N. Reddy to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

  
LUCILLE FOURGEOT  
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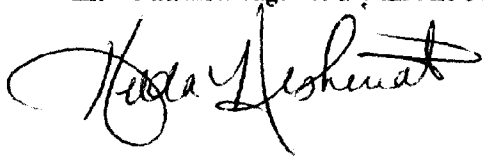
Inventor (5) On this 8th day of March, 2000, before me personally came Leon Stok to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001



(IBM Docket No.: YO999-598)

Inventor (6) On this 9th day of March, 2000, before me personally came Andrew J. Sullivan to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.



HILDA NESHEIWAT  
Notary Public, State of New York  
No. 01NE5013143  
Qualified in Dutchess County  
Term Expires: 07/15/07

Inventor (7) On this \_\_\_\_\_ day of \_\_\_\_\_, 2000, before me personally came \_\_\_\_\_ to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

\_\_\_\_\_

# ASSIGNMENT

Whereas, we

Inventor and City	(1) Kanad Chakraborty County of Morris	City of Mt. Arlington and State of New Jersey
	(2) Wilm Ernst Donath County of New York	City of New York and State of New York
	(3) Prabhakar Nandavar Kudva County of Westchester	City of White Plains and State of New York
	(4) Lakshmi Narasimha Reddy County of Westchester	City of Ossining and State of New York
	(5) Leon Stok County of Westchester	City of Croton-on-Hudson and State of New York
	(6) Andrew James Sullivan County of Dutchess	City of Wappingers Falls and State of New York
	(7) Paul Gerard Villarrubla County of Williamson	City of Round Rock and State of Texas

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Dates That           and have executed, respectively, a United States patent application therefor on  
Inventors  
Signed the           (1) March 7, 2000, (2) March 7, 2000, (3) March 7, 2000, (4) March 7, 2000,  
Declaration       (5) March 8, 2000, (6)                   2000, and (7) March 10, 2000.

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York, 10504, (hereinafter called IBM), desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefor;

Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, we the above named hereby sell, assign, and transfer to IBM, its successors and assigns, the entire right, title and interest in the said application and invention therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of said United States application, and we request the Commissioner of Patents to issue any Letters Patent granted upon the invention set forth in said application to IBM, its successors and assigns; and we hereby agree that IBM may apply for foreign Letters Patent on said invention and we will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by IBM.

City (1) Signed at Yorktown Hgts., NY  
Date on March 7, 2000

*Kanad Chakraborty*  
signature  
( Kanad Chakraborty ) inventor  
First Name Middle Initial Last Name

City (2) Signed at Yorktown Hgts., NY  
Date on March 7, 2000

*Wilm Ernst Donath*  
signature  
( Wilm Ernst Donath ) inventor  
First Name Middle Name Last Name

City (3) Signed at Yorktown Hgts., NY  
Date on March 7, 2000

*Prabhakar Nandavar Kudva*  
signature  
( Prabhakar Nandavar Kudva ) inventor  
First Name Middle Name Last Name

City (4) Signed at Yorktown Hgts., NY  
Date on March 7, 2000

*Lakshmi Narasimha Reddy*  
signature  
( Lakshmi Narasimha Reddy ) inventor  
First Name Middle Name Last Name

City (5) Signed at Yorktown Hgts., NY  
Date on March 8, 2000

*Leon Stok*  
signature  
( Leon Stok ) inventor  
First Name Middle Initial Last Name

City (6) Signed at  
Date on

*Andrew James Sullivan*  
signature  
( Andrew James Sullivan ) inventor  
First Name Middle Name Last Name

City (7) Signed at Round Rock, TX  
Date on March 10, 2000

*Paul Gerard Villarrubia*  
signature  
( Paul Gerard Villarrubia ) inventor  
First Name Middle Name Last Name

Inventor (1) On this 7th day of March, 2000, before me personally came Kanad Chakraborty to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

*Lucille Fougéot*  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001

Inventor (2) On this 7th day of March, 2000, before me personally came Wilm Ernst Donath to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

*Lucille Fougéot*  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001

Inventor (3) On this 7th day of March, 2000, before me personally came Prabhakar N. Kudva to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

*Lucille Fougéot*  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001

Inventor (4) On this 7th day of March, 2000, before me personally came Lakshmi N. Reddy to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

*Lucille Fougéot*  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001

Inventor (5) On this 8th day of March, 2000, before me personally came Leon Stok to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

*Lucille Fougéot*  
LUCILLE FOURGEOT  
NOTARY PUBLIC, State of New York  
No. 4502670  
Qualified in Westchester County  
Commission Expires 06/30/2001

(IBM Docket No.: YO999-598)

Inventor (6) On this \_\_\_\_\_ day of \_\_\_\_\_, 2000, before me personally came \_\_\_\_\_ to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

Inventor (7) On this 10 day of MARCH, 2000, before me personally came PAUL GERARD <sup>VILLARUBIA</sup> to me personally known, and known to me to be the person described in and who executed the foregoing assignment, and he acknowledged to me that he executed the same as his free act and deed.

