

### RECORDATION FORM COVER SHEET PATENTS ONLY

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

**1. Name of conveying party(ies)**

(1) Ulrich Finkler  
(2) Alexey Lvov

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

**2. Name and address of receiving party(ies)**

Name: International Business Machines Corporation

Internal Address: \_\_\_\_\_

Street Address: New Orchard Road

City: Armonk

State: New York

Country: United States Zip: 10504

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

**3. Nature of conveyance/Execution Date(s):**

Execution Date(s) March 11, 2008

- Assignment  Merger
- Security Agreement  Change of Name
- Joint Research Agreement
- Government Interest Assignment
- Executive Order 9424, Confirmatory License
- Other \_\_\_\_\_

**4. Application or patent number(s):**

This document is being filed together with a new application.

A. Patent Application No.(s)  
12/046,828

B. Patent No.(s)

Additional numbers attached?  Yes  No

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

Name: Michael J. Chang

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**6. Total number of applications and patents involved: 1****7. Total fee (37 CFR 1.21(h) & 3.41) \$40.00**

- Authorized to be charged by credit card
- Authorized to be charged to deposit account
- Enclosed
- None required (government interest not affecting title)

**8. Payment Information**

a. Credit Card Last 4 Numbers \_\_\_\_\_  
Expiration Date \_\_\_\_\_

b. Deposit Account Number 50-0510

Authorized User Name Michael J. Chang

**9. Signature:**

Signature

July 12, 2008

Date

Michael J. Chang, Reg. No. 46,611

Name of Person Signing

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

2

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PATENT  
REEL: 021231 FRAME: 0121

CH \$40.00 500510 12046828

# ASSIGNMENT

Inventor  
and City

Whereas, we

(1) Ulrich Finkler  
County of Putnam

of Mahopac  
and State of New York

(2) Alexey Lvov  
County of Rockland

of Congers  
and State of New York

have invented certain improvements in

TITLE

**EXACT GEOMETRY OPERATIONS ON SHAPES USING FIXED-SIZE INTEGER COORDINATES**

and executed, respectively, a United States patent application therefor on


DATE THAT  
INVENTOR  
SIGNED THE  
DECLARATION

(1) March 11<sup>th</sup>, 2008, (2) March 11<sup>th</sup>, 2008.

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 in all 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 inventions 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.

Signed

(1)   
\_\_\_\_\_  
(Ulrich Finkler) INVENTOR

on March 11<sup>th</sup>, 2008

FIRST NAME MIDDLE INITIAL LAST NAME

(2)   
\_\_\_\_\_  
(Alexey Lvov) INVENTOR

on March 11<sup>th</sup>, 2008

FIRST NAME MIDDLE INITIAL LAST NAME

ALEXEY Y LVOV

PATENT