

6/13/05

06-20-2005

RECC



IEET

103023027

113014 U.S. PTO  
11/151056



To the Honorable Assistant Commissioner for Patents: Please record the attached original documents or copy thereof.

| 1. Names of conveying parties: | Execution Dates: |
|--------------------------------|------------------|
| Ronald Fagin                   | 06.10.2005       |
| Ramanathan V. Guha             | 06.12.2005       |
| Phokion Gerasimos Kolaitis     | 06.09.2005       |
| Jasmine Gina Novak             | 06.10.2005       |
| Shanmugasundaram Ravikumar     | 06.10.2005       |
| Dandapani Sivakumar            | 06.10.2005       |
| Andrew Stephen Tomkins         | 06.10.2005       |

2. Name and address of receiving party:  
International Business Machines Corporation  
New Orchard Road, Armonk, NY 10504

3. Nature of conveyance: Assignment

4. Application number: 11/\_\_\_\_\_ Docket No.: ARC920050060US1  
If this Assignment is being filed together with a new application, enter the execution date of the application (date Declaration signed by first named inventor): 06.10.2005

5. Name and address of party to whom correspondence concerning Assignment should be mailed:  
Samuel A. Kassatly  
20690 View Oaks Way  
San Jose, CA 95120  
Tel: (408) 323-5111  
Fax: (408) 521-0111

6. Total number of applications involved: 1

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

8. Charge fee to Deposit Account No. 09-0441

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.

06/20/2005 DBYRNE 00000042 090441 11151056

01 FC:8021 (40.00 BA)  
Samuel A. Kassatly

06/13/2005

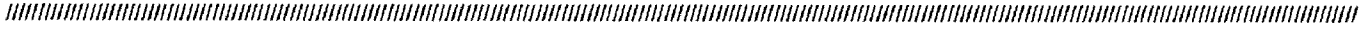
Attorney Name

Signature of Attorney

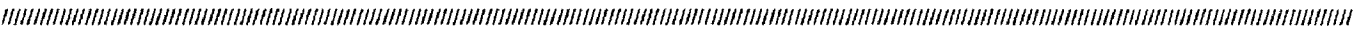
Date

# ASSIGNMENT

Whereas, we,



- (1) Name: Ronald Fagin  
City/State of: Los Gatos, CA  
County/Country of: Santa Clara
- (2) Name: Ramanathan V. Guha  
City/State of: Los Altos, CA  
County/Country of: Santa Clara
- (3) Name: Phokion Gerasimos Kolaitis  
City/State of: Los Altos, CA  
County/Country of: Santa Clara
- (4) Name: Jasmine Gina Novak  
City/State of: Mountain View, CA  
County/Country of: Santa Clara
- (5) Name: Shanmugasundaram Ravikumar  
City/State of: Cupertino, CA  
County/Country of: Santa Clara
- (6) Name: Dandapani Sivakumar  
City/State of: Cupertino, CA  
County/Country of: Santa Clara
- (7) Name: Andrew Stephen Tomkins  
City/State of: San Jose, CA  
County/Country of: Santa Clara
- (8) Name:  
City/State of:  
County/Country of:
- (9) Name:  
City/State of:  
County/Country of:



have invented certain improvements in:

**"SYSTEM AND METHOD FOR PERFORMING A HIGH-LEVEL MULTI-DIMENSIONAL QUERY ON A MULTI-STRUCTURAL DATABASE"**

and executed a Declaration and Power of Attorney for a United States patent application therefor on:

- |                                |                            |
|--------------------------------|----------------------------|
| (1) Date: <u>6/10/05</u>       | (6) Date: <u>6/10/2005</u> |
| (2) Date: _____                | (7) Date: _____            |
| (3) Date: _____                | (8) Date: _____            |
| (4) Date: _____                | (9) Date: _____            |
| (5) Date: <u>June 10, 2005</u> |                            |

## ASSIGNMENT

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York 10504, desires to acquire and own 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, I, the above named, hereby sell, assign, and transfer to Assignees, their 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 I request the Commissioner of Patents to issue any Letters Patent granted upon the inventions set forth in said application to Assignees, their successors and assigns; and I hereby agree that Assignees may apply for foreign Letters Patent on said invention and I will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by Assignees.

Execution by Assignors:

(1) Name: Ronald Fagin

City/State

San Jose, CA

Signature:



Date:

6/10/05

(2) Name: Ramanathan V. Guha

City/State

Signature:

\_\_\_\_\_

Date:

\_\_\_\_\_

(3) Name: Phokion Gerasimos Kolaitis

City/State

Signature:

\_\_\_\_\_

Date:

\_\_\_\_\_

(4) Name: Jasmine Gina Novak

City/State

Signature:

\_\_\_\_\_

Date:

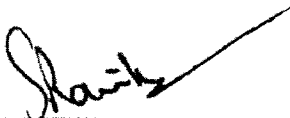
\_\_\_\_\_

(5) Name: Shanmugasundaram Ravikumar

City/State

San Jose, CA

Signature:



Date:

June 10, 2005

ASSIGNMENT

(6) Name: Dandapani Sivakumar

City/State *San Jose, CA*

Signature: *[Handwritten Signature]*

Date: *6/10/2005*

(7) Name: Andrew Stephen Tomkins

City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(8) Name:

City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(9) Name:

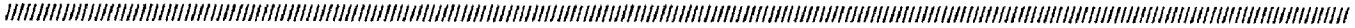
City/State

Signature: \_\_\_\_\_

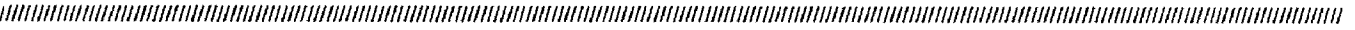
Date: \_\_\_\_\_

ASSIGNMENT

Whereas, we,



- (1) Name: Ronald Fagin  
City/State of: Los Gatos, CA  
County/Country of: Santa Clara
- (2) Name: Ramanathan V. Guha  
City/State of: Los Altos, CA  
County/Country of: Santa Clara
- (3) Name: Phokion Gerasimos Kolaitis  
City/State of: Los Altos, CA  
County/Country of: Santa Clara
- (4) Name: Jasmine Gina Novak  
City/State of: Mountain View, CA  
County/Country of: Santa Clara
- (5) Name: Shanmugasundaram Ravikumar  
City/State of: Cupertino, CA  
County/Country of: Santa Clara
- (6) Name: Dandapani Sivakumar  
City/State of: Cupertino, CA  
County/Country of: Santa Clara
- (7) Name: Andrew Stephen Tomkins  
City/State of: San Jose, CA  
County/Country of: Santa Clara
- (8) Name:  
City/State of:  
County/Country of:
- (9) Name:  
City/State of:  
County/Country of:



have invented certain improvements in:

"SYSTEM AND METHOD FOR PERFORMING A HIGH-LEVEL MULTI-DIMENSIONAL QUERY ON A MULTI-STRUCTURAL DATABASE"

and executed a Declaration and Power of Attorney for a United States patent application therefor on:

- (1) Date: \_\_\_\_\_ (6) Date: \_\_\_\_\_
- (2) Date: 6/12/2005 (7) Date: \_\_\_\_\_
- (3) Date: \_\_\_\_\_ (8) Date: \_\_\_\_\_
- (4) Date: \_\_\_\_\_ (9) Date: \_\_\_\_\_
- (5) Date: \_\_\_\_\_

## ASSIGNMENT

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York 10504, desires to acquire and own 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, I, the above named, hereby sell, assign, and transfer to Assignees, their 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 I request the Commissioner of Patents to issue any Letters Patent granted upon the inventions set forth in said application to Assignees, their successors and assigns; and I hereby agree that Assignees may apply for foreign Letters Patent on said invention and I will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by Assignees.

Execution by Assignors:

(1) Name: Ronald Fagin City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(2) Name: Ramanathan V. Guha City/State

Signature: R. Vaidhyanathan Guha

Date: 6/12/2005

(3) Name: Phokion Gerasimos Kolaitis City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(4) Name: Jasmine Gina Novak City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(5) Name: Shanmugasundaram Ravikumar City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# ASSIGNMENT

(6) Name: Dandapani Sivakumar City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(7) Name: Andrew Stephen Tomkins City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(8) Name: City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

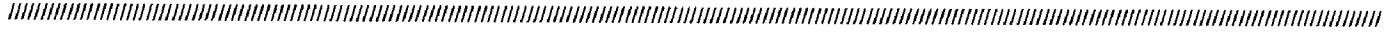
(9) Name: City/State

Signature: \_\_\_\_\_

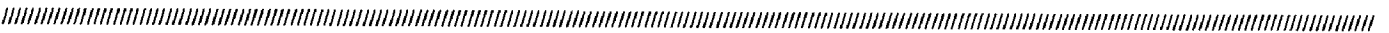
Date: \_\_\_\_\_

# ASSIGNMENT

Whereas, we,



- (1) Name: Ronald Fagin  
City/State of: Los Gatos, CA  
County/Country of: Santa Clara
- (2) Name: Ramanathan V. Guha  
City/State of: Los Altos, CA  
County/Country of: Santa Clara
- (3) Name: Phokion Gerasimos Kolaitis  
City/State of: Los Altos, CA  
County/Country of: Santa Clara
- (4) Name: Jasmine Gina Novak  
City/State of: Mountain View, CA  
County/Country of: Santa Clara
- (5) Name: Shanmugasundaram Ravikumar  
City/State of: Cupertino, CA  
County/Country of: Santa Clara
- (6) Name: Dandapani Sivakumar  
City/State of: Cupertino, CA  
County/Country of: Santa Clara
- (7) Name: Andrew Stephen Tomkins  
City/State of: San Jose, CA  
County/Country of: Santa Clara
- (8) Name:  
City/State of:  
County/Country of:
- (9) Name:  
City/State of:  
County/Country of:



have invented certain improvements in:

**"SYSTEM AND METHOD FOR PERFORMING A HIGH-LEVEL MULTI-DIMENSIONAL QUERY ON A MULTI-STRUCTURAL DATABASE"**

and executed a Declaration and Power of Attorney for a United States patent application therefor on:

- |                             |                 |
|-----------------------------|-----------------|
| (1) Date: _____             | (6) Date: _____ |
| (2) Date: _____             | (7) Date: _____ |
| (3) Date: <u>06.09.2005</u> | (8) Date: _____ |
| (4) Date: _____             | (9) Date: _____ |
| (5) Date: _____             |                 |



## ASSIGNMENT

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York 10504, desires to acquire and own 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, I, the above named, hereby sell, assign, and transfer to Assignees, their 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 I request the Commissioner of Patents to issue any Letters Patent granted upon the inventions set forth in said application to Assignees, their successors and assigns; and I hereby agree that Assignees may apply for foreign Letters Patent on said invention and I will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by Assignees.

Execution by Assignors:

(1) Name: Ronald Fagin City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(2) Name: Ramanathan V. Guha City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(3) Name: Phokion Gerasimos Kolaitis City/State

Signature: Phokion Kolaitis

Date: 6/9/2005

(4) Name: Jasmine Gina Novak City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(5) Name: Shanmugasundaram Ravikumar City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# ASSIGNMENT

(6) Name: Dandapani Sivakumar

City/State

:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(7) Name: Andrew Stephen Tomkins

City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(8) Name:

City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(9) Name:

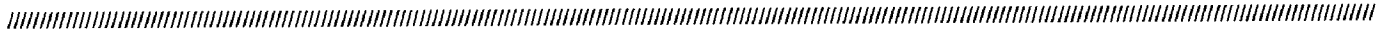
City/State

Signature: \_\_\_\_\_

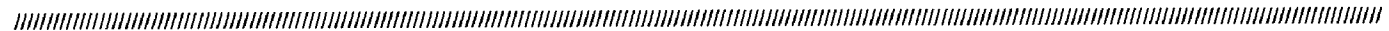
Date: \_\_\_\_\_

# ASSIGNMENT

Whereas, we,



- (1) Name: Ronald Fagin  
City/State of: Los Gatos, CA  
County/Country of: Santa Clara
  
- (2) Name: Ramanathan V. Guha  
City/State of: Los Altos, CA  
County/Country of: Santa Clara
  
- (3) Name: Phokion Gerasimos Kolaitis  
City/State of: Los Altos, CA  
County/Country of: Santa Clara
  
- (4) Name: Jasmine Gina Novak  
City/State of: Mountain View, CA  
County/Country of: Santa Clara
  
- (5) Name: Shanmugasundaram Ravikumar  
City/State of: Cupertino, CA  
County/Country of: Santa Clara
  
- (6) Name: Dandapani Sivakumar  
City/State of: Cupertino, CA  
County/Country of: Santa Clara
  
- (7) Name: Andrew Stephen Tomkins  
City/State of: San Jose, CA  
County/Country of: Santa Clara
  
- (8) Name:  
City/State of:  
County/Country of:
  
- (9) Name:  
City/State of:  
County/Country of:



have invented certain improvements in:

**"SYSTEM AND METHOD FOR PERFORMING A HIGH-LEVEL MULTI-DIMENSIONAL QUERY ON A MULTI-STRUCTURAL DATABASE"**

and executed a Declaration and Power of Attorney for a United States patent application therefor on:

- |                      |                 |
|----------------------|-----------------|
| (1) Date: _____      | (6) Date: _____ |
| (2) Date: _____      | (7) Date: _____ |
| (3) Date: _____      | (8) Date: _____ |
| (4) Date: 06.10.2005 | (9) Date: _____ |
| (5) Date: _____      |                 |

## ASSIGNMENT

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York 10504, desires to acquire and own 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, I, the above named, hereby sell, assign, and transfer to Assignees, their 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 I request the Commissioner of Patents to issue any Letters Patent granted upon the inventions set forth in said application to Assignees, their successors and assigns; and I hereby agree that Assignees may apply for foreign Letters Patent on said invention and I will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by Assignees.

### Execution by Assignors

- |     |                                  |                        |                   |
|-----|----------------------------------|------------------------|-------------------|
| (1) | Name: Ronald Fagin               | City/State             |                   |
|     | Signature: _____                 | Date: _____            |                   |
| (2) | Name: Ramanathan V. Guha         | City/State             |                   |
|     | Signature: _____                 | Date: _____            |                   |
| (3) | Name: Phokion Gerasimos Kolaitis | City/State             |                   |
|     | Signature: _____                 | Date: _____            |                   |
| (4) | Name: Jasmine Gina Novak         | City/State             | Mountain View, CA |
|     | Signature: <u>Jasmine Novak</u>  | Date: <u>6/10/2005</u> |                   |
| (5) | Name: Shanmugasundaram Ravikumar | City/State             |                   |
|     | Signature: _____                 | Date: _____            |                   |

# ASSIGNMENT

(6) Name: Dandapani Sivakumar

City/State

:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(7) Name: Andrew Stephen Tomkins

City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(8) Name:

City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(9) Name:

City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**ASSIGNMENT**

Whereas, we,

////////////////////////////////////////////////////////////////////////////////////////////////////

- (1) Name: Ronald Fagin  
City/State of: Los Gatos, CA  
County/Country of: Santa Clara
- (2) Name: Ramanathan V. Guha  
City/State of: Los Altos, CA  
County/Country of: Santa Clara
- (3) Name: Phokion Gerasimos Kolaitis  
City/State of: Los Altos, CA  
County/Country of: Santa Clara
- (4) Name: Jasmine Gina Novak  
City/State of: Mountain View, CA  
County/Country of: Santa Clara
- (5) Name: Shanmugasundaram Ravikumar  
City/State of: Cupertino, CA  
County/Country of: Santa Clara
- (6) Name: Dandapani Sivakumar  
City/State of: Cupertino, CA  
County/Country of: Santa Clara
- (7) Name: Andrew Stephen Tomkins  
City/State of: San Jose, CA  
County/Country of: Santa Clara
- (8) Name:  
City/State of:  
County/Country of:
- (9) Name:  
City/State of:  
County/Country of:

////////////////////////////////////////////////////////////////////////////////////////////////////

have invented certain improvements in:

**"SYSTEM AND METHOD FOR PERFORMING A HIGH-LEVEL MULTI-DIMENSIONAL QUERY ON A MULTI-STRUCTURAL DATABASE"**

and executed a Declaration and Power of Attorney for a United States patent application therefor on:

- |                 |                          |
|-----------------|--------------------------|
| (1) Date: _____ | (6) Date: _____          |
| (2) Date: _____ | (7) Date: <u>6/10/05</u> |
| (3) Date: _____ | (8) Date: _____          |
| (4) Date: _____ | (9) Date: _____          |
| (5) Date: _____ |                          |

## ASSIGNMENT

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York 10504, desires to acquire and own 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, I, the above named, hereby sell, assign, and transfer to Assignees, their 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 I request the Commissioner of Patents to issue any Letters Patent granted upon the inventions set forth in said application to Assignees, their successors and assigns; and I hereby agree that Assignees may apply for foreign Letters Patent on said invention and I will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by Assignees.

Execution by Assignors:

- |     |                                  |             |  |
|-----|----------------------------------|-------------|--|
| (1) | Name: Ronald Fagin               | City/State  |  |
|     | Signature: _____                 | Date: _____ |  |
| (2) | Name: Ramanathan V. Guha         | City/State  |  |
|     | Signature: _____                 | Date: _____ |  |
| (3) | Name: Phokion Gerasimos Kolaitis | City/State  |  |
|     | Signature: _____                 | Date: _____ |  |
| (4) | Name: Jasmine Gina Novak         | City/State  |  |
|     | Signature: _____                 | Date: _____ |  |
| (5) | Name: Shanmugasundaram Ravikumar | City/State  |  |
|     | Signature: _____                 | Date: _____ |  |

# ASSIGNMENT

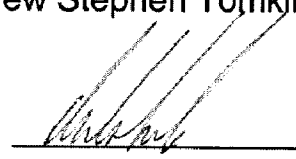
(6) Name: Dandapani Sivakumar City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(7) Name: Andrew Stephen Tomkins

City/State 06.10.2005

Signature:  \_\_\_\_\_

Date: 06.10.2005 \_\_\_\_\_

(8) Name: City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(9) Name: City/State

Signature: \_\_\_\_\_

Date: \_\_\_\_\_