

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

Assignment ID: PATI61656

|                                   |                       |
|-----------------------------------|-----------------------|
| <b>SUBMISSION TYPE:</b>           | NEW ASSIGNMENT        |
| <b>NATURE OF CONVEYANCE:</b>      | ASSIGNMENT            |
| <b>CONVEYING PARTY DATA</b>       |                       |
| <b>Name</b>                       | <b>Execution Date</b> |
| SPX Holdings, LLC                 | 09/04/2023            |
| Parvinder Chadha                  | 09/04/2023            |
| Sharon Gill Chadha                | 09/04/2023            |
| Xen Cheng                         | 09/04/2023            |
| <b>RECEIVING PARTY DATA</b>       |                       |
| <b>Company Name:</b>              | Rule 14 LLC           |
| <b>Street Address:</b>            | 2701 E Grauwyler Road |
| <b>City:</b>                      | Irving                |
| <b>State/Country:</b>             | TEXAS                 |
| <b>Postal Code:</b>               | 75061                 |
| <b>PROPERTY NUMBERS Total: 16</b> |                       |
| <b>Property Type</b>              | <b>Number</b>         |
| Patent Number:                    | 9229977               |
| Patent Number:                    | 10102257              |
| Patent Number:                    | 10108713              |
| Patent Number:                    | 10114871              |
| Patent Number:                    | 10108678              |
| Patent Number:                    | 10114872              |
| Patent Number:                    | 10120911              |
| Patent Number:                    | 10114899              |
| Patent Number:                    | 10108679              |
| Patent Number:                    | 10114870              |
| Patent Number:                    | 10108680              |
| Patent Number:                    | 10108723              |
| Patent Number:                    | 10108724              |
| Patent Number:                    | 10198516              |
| Patent Number:                    | 10108725              |
| Patent Number:                    | 11048712              |

**CORRESPONDENCE DATA****Fax Number:** 3102015219

*Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.*

**Phone:** 3102777200**Email:** LAXIPDocket@seyfarth.com**Correspondent Name:** Puya Partow-Navid**Address Line 1:** Seyfarth Shaw LLP**Address Line 2:** 2029 Century Park East, Suite 3500**Address Line 4:** Los Angeles, CALIFORNIA 90067-3021

|                                |                                                            |
|--------------------------------|------------------------------------------------------------|
| <b>ATTORNEY DOCKET NUMBER:</b> | 79531-000001                                               |
| <b>NAME OF SUBMITTER:</b>      | Eva Salazar                                                |
| <b>SIGNATURE:</b>              | Eva Salazar                                                |
| <b>DATE SIGNED:</b>            | 02/29/2024                                                 |
|                                | This document serves as an Oath/Declaration (37 CFR 1.63). |

**Total Attachments: 5**

source=2023-9-1 - Rule 14\_SPX\_Inventors Patent Assignment Agreement - xc#page1.tif

source=2023-9-1 - Rule 14\_SPX\_Inventors Patent Assignment Agreement - xc#page2.tif

source=2023-9-1 - Rule 14\_SPX\_Inventors Patent Assignment Agreement - xc#page3.tif

source=2023-9-1 - Rule 14\_SPX\_Inventors Patent Assignment Agreement - xc#page4.tif

source=2023-9-1 - Rule 14\_SPX\_Inventors Patent Assignment Agreement - xc#page5.tif

## PATENT ASSIGNMENT AGREEMENT

This Assignment Agreement (“**Agreement**”), dated and effective as of September 4, 2023, is between and by Rule 14 LLC (“**Rule 14**”), a Nevada limited liability corporation, located at 2701 E Grauwylar Road, Irving, TX 75061, SPX Holdings, LLC (“**SPX Holdings**”) a Nevada limited liability company, located at 3003 Pennsylvania Ave, Santa Monica, California 90404, and the individuals Parvinder Chadha, Sharon Gill Chadha, and Xin Cheng (collectively, the “**Inventors**”). Rule 14, SPX Holdings, and the Inventors agree and undertake as follows:

### Witnesseth

**WHEREAS**, Rule 14, SPX Holdings, and the Inventors acknowledge that the Patents, as defined below, were initially conveyed, transferred, and assigned to Rule 14;

**WHEREAS**, Rule 14, SPX Holdings, and the Inventors acknowledge that the Patents were conveyed, transferred, and assigned to SPX Holdings on March 18, 2022;

**NOW, THEREFORE**, in consideration of the agreements made herein, and of the mutual benefits to be derived hereby, SPX Holdings desires to convey, transfer, and assign to Rule 14 the Patents, and have agreed to execute and deliver this Agreement, for recording with the United States Patent and Trademark Office;

Rule 14, SPX Holdings, and the Inventors as such hereto agree as follows:

### Terms and Conditions

#### 1. Definitions

1.1 “**Patents**” means the patents listed on Schedule A attached hereto.

#### 2. Assignment

2.1 For good and valuable consideration of the sum of one dollar (\$1.00), the receipt and sufficiency of which are hereby acknowledged, SPX Holdings hereby irrevocably conveys, transfers, and assigns to Rule 14, and Rule 14 hereby accepts, all of SPX Holdings’ rights, title, and interest in and to the following:

- (a) the Patents;
- (b) all rights of any kind whatsoever of SPX Holdings accruing under any of the foregoing provided by applicable law of any jurisdiction, by international treaties and conventions, and otherwise throughout the world;
- (c) any and all royalties, fees, income, payments, and other proceeds now or hereafter due or payable with respect to any and all of the foregoing; and
- (d) any and all claims and causes of action with respect to any of the foregoing, whether accruing on or after the date hereof, including all rights to and claims for damages, restitution, and injunctive and other legal and equitable relief for present and future infringement, misappropriation, violation, misuse, breach, or default, with the

right but no obligation to sue for such legal and equitable relief and to collect, or otherwise recover, any such damages.

3. Acknowledgements

3.1 Rule 14, SPX Holdings, and the Inventors acknowledge that, pursuant to the June 19, 2013 ASSIGNMENT executed by the Inventors, the Inventors conveyed, transferred, and assigned the Patents to Rule 14 as of their respective dates of issuance, and conveyed, transferred, and assigned the applications which would issue as the Continuation Patents as of their filing dates.

3.2 Rule 14, SPX Holdings, and the Inventors acknowledge that, pursuant to the March 18, 2022 PATENT ASSIGNMENT AGREEMENT between Rule 14 and SPX Holdings, Rule 14 conveyed, transferred, and assigned the Patents to SPX Holdings as of March 18, 2022.

3.3 Rule 14, SPX Holdings, and the Inventors acknowledge that the March 18, 2022 PATENT ASSIGNMENT AGREEMENT between the Inventors and SPX Holdings does not signify that the Patents were owned by the Inventors as of March 18, 2022.

4. Recordation and Further Actions

4.1 SPX Holdings and the Inventors hereby authorizes the Commissioner for Patents in the United States Patent and Trademark Office to record and register this Patent Assignment upon request by Rule 14. Following the date hereof, upon Rule 14's reasonable request, SPX Holdings and the Inventors shall take such steps and actions, and provide such cooperation and assistance to Rule 14 and its successors, assigns, and legal representatives, including the execution and delivery of any affidavits, declarations, oaths, exhibits, assignments, powers of attorney, or other documents, as may be necessary to effect, evidence, or perfect the assignment of the Patents to Rule 14, or any assignee or successor thereto.

5. Miscellaneous

5.1 Counterparts. This Assignment may be executed in counterparts, each of which shall be deemed an original, but all of which together shall be deemed one and the same agreement. A signed copy of this Assignment delivered by facsimile, e-mail, or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original signed copy of this Assignment.

5.2 Successors and Assignments. This Assignment Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns.

5.3 Governing Law. This Patent Assignment and any claim, controversy, dispute, or cause of action (whether in contract, tort, or otherwise) based upon, arising out of, or relating to this Assignment Agreement and the transactions contemplated hereby shall be governed by, and construed in accordance with, the laws of the United States and the State of Nevada, without giving effect to any choice or conflict of law provision or rule (whether of the State of Nevada or any other jurisdiction).

5.4 Severability. If any one or more of the provisions contained in this Agreement shall be invalid, illegal or unenforceable in any respect under any law applicable there, the validity,

legality and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby.

5.5 This Agreement supersedes any and all oral or written agreements and understandings previously made between the parties relating to the subject matter hereof. The headings of Sections of this Agreement are for convenience of reference only and shall not define or limit the provisions hereof.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, Rule 14, SPX Holdings, and the Inventors have duly executed and delivered this Agreement as of the date first set forth above.

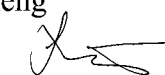
Sharon Gill Chadha

By: 

Sharon Gill Chadha

Date: September 4, 2023

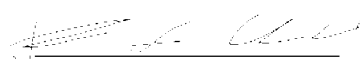
Xin Cheng

By: 

Xen Cheng

Date: September 4, 2023

Parvinder Chadha

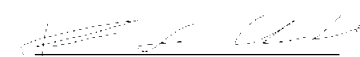
By: 

Parvinder Chadha

Date: September 4, 2023

AGREED TO AND ACCEPTED

Rule 14 LLC

By: 

Name: Parvinder Chadha

Title: Managing Member

Date: September 4, 2023

SPX Holdings LLC

By: 

Name: Parvinder Chadha

Title: Managing Member

Date: September 4, 2023

**SCHEDULE A**  
**PATENTS**

| <b>Title</b>                       | <b>Jurisdiction</b> | <b>Patent Number</b> | <b>Issue Date</b> |
|------------------------------------|---------------------|----------------------|-------------------|
| Real-Time and Adaptive Data Mining | US                  | 9,229,977            | 01/05/2016        |
| Real-Time and Adaptive Data Mining | US                  | 10,102,257           | 10/16/2018        |
| Real-Time and Adaptive Data Mining | US                  | 10,108,713           | 10/23/2018        |
| Real-Time and Adaptive Data Mining | US                  | 10,114,871           | 10/30/2018        |
| Real-Time and Adaptive Data Mining | US                  | 10,108,678           | 10/23/2018        |
| Real-Time and Adaptive Data Mining | US                  | 10,114,872           | 10/30/2018        |
| Real-Time and Adaptive Data Mining | US                  | 10,120,911           | 11/06/2018        |
| Real-Time and Adaptive Data Mining | US                  | 10,114,899           | 10/30/2018        |
| Real-Time and Adaptive Data Mining | US                  | 10,108,679           | 10/23/2018        |
| Real-Time and Adaptive Data Mining | US                  | 10,114,870           | 10/30/2018        |
| Real-Time and Adaptive Data Mining | US                  | 10,108,680           | 10/23/2018        |
| Real-Time and Adaptive Data Mining | US                  | 10,108,723           | 10/23/2018        |
| Real-Time and Adaptive Data Mining | US                  | 10,108,724           | 10/23/2018        |
| Real-Time and Adaptive Data Mining | US                  | 10,198,516           | 02/05/2019        |
| Real-Time and Adaptive Data Mining | US                  | 10,108,725           | 10/23/2018        |
| Real-Time and Adaptive Data Mining | US                  | 11,048,712           | 06/29/2021        |



**UNITED STATES  
PATENT AND TRADEMARK OFFICE**

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313 - 1450  
[www.uspto.gov](http://www.uspto.gov)

## **APPROVAL LETTER**

**APPLICATION #**  
**13/928,313**

**FILING DATE**  
**06/26/2013**

**APPLICANT/PATENT UNDER REEXAMINATION**  
**Sharon CHADHA**

### **Title of Invention**

**REAL-TIME AND ADAPTIVE DATA MINING**

**Electronic terminal disclaimer filed on 12/02/2023**

☒ **Approved**

**This patent is subject to a Terminal Disclaimer**

**Approved / Disapproved by: Electronic Terminal Disclaimer automatically approved**



## ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #  
**13/928,313**

RECEIPT DATE / TIME  
**12/02/2023 05:43:22 PM Z ET**

ATTORNEY DOCKET #  
**79531-000002**

### Title of Invention

REAL-TIME AND ADAPTIVE DATA MINING

### Application Information

APPLICATION TYPE    Utility - Nonprovisional Application  
under 35 USC 111(a)

PATENT #    9229977

CONFIRMATION #    2955

FILED BY    Puya Partow-Navid

PATENT CENTER #    63467047

FILING DATE    06/26/2013

CUSTOMER #    98275

FIRST NAMED INVENTOR    Sharon Gill CHADHA

CORRESPONDENCE ADDRESS    -

AUTHORIZED BY    -

### Documents

**TOTAL DOCUMENTS: 2**

| DOCUMENT             | PAGES | DESCRIPTION                                 | SIZE (KB) |
|----------------------|-------|---------------------------------------------|-----------|
| petition-request.pdf | 3     | Terminal Disclaimer-Filed<br>(Electronic)   | 55 KB     |
| grantLetter.pdf      | 1     | Terminal Disclaimer-Electronic-<br>Approved | 19 KB     |

### Digest

| DOCUMENT             | MESSAGE DIGEST(SHA-512)                                                                               |
|----------------------|-------------------------------------------------------------------------------------------------------|
| petition-request.pdf | 2870B29EF634129B61E085EFC773A46EEADC49EF2764A0A7F<br>B7EB256A4FF9D7E481D0A9CE3D1282D73A35E5A861194CED |

753490FB11C549FFF98CC2CD7A53EA3

grantLetter.pdf

89A47B5AC155EF6DBB9466D47F26ACA3527CBC0426D4E626  
E302265869F9EC5ED8B7AB448B3C9C8AE397780F04F9AEC28  
F6D93F888E1AD5C6DA1BB21CFCBBE99

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



ELECTRONIC PAYMENT RECEIPT

APPLICATION # 13/928,313      RECEIPT DATE / TIME 12/02/2023 05:43:22 PM Z ET      ATTORNEY DOCKET # 79531-000002

Title of Invention

REAL-TIME AND ADAPTIVE DATA MINING

Application Information

|                        |                                                          |                      |                     |
|------------------------|----------------------------------------------------------|----------------------|---------------------|
| APPLICATION TYPE       | Utility - Nonprovisional Application under 35 USC 111(a) | PATENT #             | 9229977             |
| CONFIRMATION #         | 2955                                                     | FILED BY             | Puya Partow-Navid   |
| PATENT CENTER #        | 63467047                                                 | AUTHORIZED BY        | -                   |
| CUSTOMER #             | 98275                                                    | FILING DATE          | 06/26/2013          |
| CORRESPONDENCE ADDRESS | -                                                        | FIRST NAMED INVENTOR | Sharon Gilli CHADHA |

Payment Information

|                        |                                              |                       |
|------------------------|----------------------------------------------|-----------------------|
| PAYMENT METHOD         | PAYMENT TRANSACTION ID                       | PAYMENT AUTHORIZED BY |
| DA / 191351            | E2023B2H44306007                             | Puya Partow-Navid     |
| PRE-AUTHORIZED ACCOUNT | PRE-AUTHORIZED CATEGORY                      |                       |
| 191351                 | 37 CFR 1.21 (Miscellaneous fees and charges) |                       |

| FEE CODE      | DESCRIPTION                                         | ITEM PRICE(\$) | QUANTITY | ITEM TOTAL(\$) |
|---------------|-----------------------------------------------------|----------------|----------|----------------|
| 2814          | STATUTORY DISCLAIMER, INCLUDING TERMINAL DISCLAIMER | 170.00         | 1        | 170.00         |
| TOTAL AMOUNT: |                                                     |                |          | \$170.00       |

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



UNITED STATES  
PATENT AND TRADEMARK OFFICE

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Alexandria, VA 22313 - 1450  
www.uspto.gov

## TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING REJECTION OVER A PENDING "REFERENCE" APPLICATION

APPLICATION #  
13928313

FILING DATE  
06/26/2013

FIRST NAMED INVENTOR  
Sharon CHADHA

ATTORNEY DOCKET #  
79531-000002

### Title of Invention

REAL-TIME AND ADAPTIVE DATA MINING



Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action



This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

| Owner            | Percent Interest |
|------------------|------------------|
| SPX HOLDINGS LLC | 100%             |
| Total            | 100%             |

The owner(s) of percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending reference Application Number(s)

| Application # | Filing Date |
|---------------|-------------|
|---------------|-------------|

as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the reference application are commonly owned. This agreement runs with any patent granted on the

instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said reference application, "as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application," in the event that any such patent granted on the pending reference application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

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The owner(s) of percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

| Patent # |
|----------|
| 11048712 |
| 10102257 |
| 10108713 |
| 10114871 |
| 10108678 |
| 10114872 |
| 10120911 |
| 10114899 |
| 10108679 |
| 10114870 |
| 10108680 |
| 10108723 |
| 10108724 |
| 10198516 |
| 10108725 |

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:

- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.



Terminal disclaimer fee under 37 CFR 1.20(d) included with Electronic Terminal Disclaimer request.

**Applicant claims the following entity status:**

Small

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

---

I certify, in accordance with 37 CFR 1.4(d)(4) that I am: An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application

**Signature**

**Name**

**Registration #**

/Puya Partownavid/

Puya Partow-Navid

59657

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\* Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner). Form PTO/SB/96 may be used for making this certification. See MPEP 324.

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT7232576

|                                                                                                                                                                                                 |                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| <b>SUBMISSION TYPE:</b>                                                                                                                                                                         | NEW ASSIGNMENT                                             |
| <b>NATURE OF CONVEYANCE:</b>                                                                                                                                                                    | ASSIGNMENT                                                 |
| <b>CONVEYING PARTY DATA</b>                                                                                                                                                                     |                                                            |
| <b>Name</b>                                                                                                                                                                                     | <b>Execution Date</b>                                      |
| RULE 14, LLC                                                                                                                                                                                    | 03/18/2022                                                 |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                                     |                                                            |
| <b>Name:</b>                                                                                                                                                                                    | SPX HOLDINGS LLC                                           |
| <b>Street Address:</b>                                                                                                                                                                          | 3003 PENNSYLVANIA AVE                                      |
| <b>City:</b>                                                                                                                                                                                    | SANTA MONICA                                               |
| <b>State/Country:</b>                                                                                                                                                                           | CALIFORNIA                                                 |
| <b>Postal Code:</b>                                                                                                                                                                             | 90404                                                      |
| <b>PROPERTY NUMBERS Total: 1</b>                                                                                                                                                                |                                                            |
| <b>Property Type</b>                                                                                                                                                                            | <b>Number</b>                                              |
| Patent Number:                                                                                                                                                                                  | 9229977                                                    |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                                      |                                                            |
| <b>Fax Number:</b>                                                                                                                                                                              |                                                            |
| <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i> |                                                            |
| <b>Email:</b>                                                                                                                                                                                   | gabdul@greenbaumlaw.com                                    |
| <b>Correspondent Name:</b>                                                                                                                                                                      | GHATUL ABDUL                                               |
| <b>Address Line 1:</b>                                                                                                                                                                          | 75 LIVINGSTON AVENUE                                       |
| <b>Address Line 4:</b>                                                                                                                                                                          | ROSELAND, NEW JERSEY 07102                                 |
| <b>NAME OF SUBMITTER:</b>                                                                                                                                                                       | GHATUL ABDUL QAYUM                                         |
| <b>SIGNATURE:</b>                                                                                                                                                                               | /ga/                                                       |
| <b>DATE SIGNED:</b>                                                                                                                                                                             | 03/18/2022                                                 |
|                                                                                                                                                                                                 | This document serves as an Oath/Declaration (37 CFR 1.63). |
| <b>Total Attachments: 1</b>                                                                                                                                                                     |                                                            |
| source=9229977#page1.tif                                                                                                                                                                        |                                                            |

(12) **United States Patent**  
**Chadha et al.**

(10) **Patent No.:** **US 9,229,977 B2**  
(45) **Date of Patent:** **Jan. 5, 2016**

(54) **REAL-TIME AND ADAPTIVE DATA MINING**

(56) **References Cited**

(71) Applicant: **Rule 14**, Santa Monica, CA (US)

U.S. PATENT DOCUMENTS

(72) Inventors: **Sharon Gill Chadha**, Santa Monica, CA (US); **Xin Cheng**, San Diego, CA (US); **Parvinder Chadha**, Santa Monica, CA (US)

|              |      |         |                 |         |
|--------------|------|---------|-----------------|---------|
| 6,260,041    | B1   | 7/2001  | Gonzalez et al. |         |
| 8,078,489    | B1   | 12/2011 | Marsten         |         |
| 8,301,486    | B1   | 10/2012 | Marsten         |         |
| 8,498,889    | B1   | 7/2013  | Marsten         |         |
| 2004/0015481 | A1 * | 1/2004  | Zinda           | 707/1   |
| 2005/0283473 | A1   | 12/2005 | Rousso et al.   |         |
| 2008/0201339 | A1   | 8/2008  | McGrew et al.   |         |
| 2008/0270344 | A1 * | 10/2008 | Yurick et al.   | 707/2   |
| 2011/0047161 | A1 * | 2/2011  | Myaeng et al.   | 707/740 |
| 2012/0150645 | A1   | 6/2012  | Mandyam et al.  |         |
| 2013/0282702 | A1 * | 10/2013 | Zhu et al.      | 707/723 |
| 2013/0325838 | A1 * | 12/2013 | Liao            | 707/707 |

(73) Assignee: **RULE 14**, Santa Monica, CA (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 133 days.

(21) Appl. No.: **13/928,313**

OTHER PUBLICATIONS

(22) Filed: **Jun. 26, 2013**

International Search Report and Written Opinion—PCT/US2014/044134—ISA/US—Apr. 1, 2015.

(65) **Prior Publication Data**

US 2014/0040301 A1 Feb. 6, 2014

\* cited by examiner

**Related U.S. Application Data**

*Primary Examiner* — Robert Beausoliel, Jr.

(60) Provisional application No. 61/679,024, filed on Aug. 2, 2012.

*Assistant Examiner* — Michael Pham

(74) *Attorney, Agent, or Firm* — Seyfarth Shaw LLP

(51) **Int. Cl.**  
**G06F 7/00** (2006.01)  
**G06F 17/30** (2006.01)

(57) **ABSTRACT**

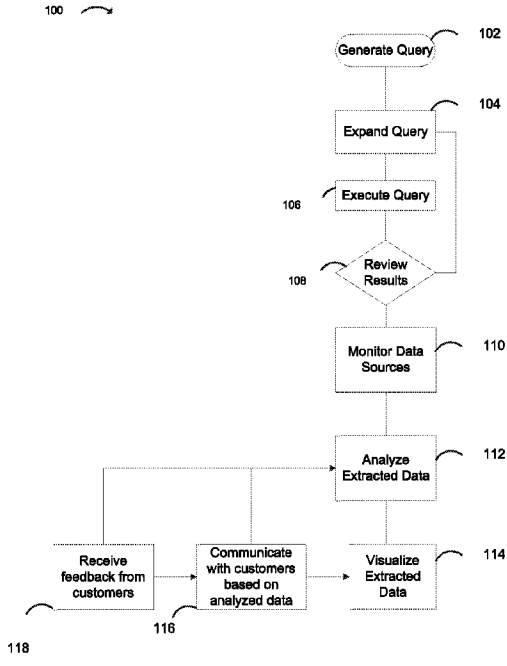
(52) **U.S. Cl.**  
CPC .... **G06F 17/30442** (2013.01); **G06F 17/30536** (2013.01); **G06F 17/30864** (2013.01); **G06F 17/30867** (2013.01)

A method of analyzing data is presented. The method includes generating a query based on a topic of interest, expanding search terms of the query, executing the query on one or more data sources, monitoring a specific data source selected from the one or more data sources. The monitoring is performed to monitor for matches to the query.

(58) **Field of Classification Search**  
None

See application file for complete search history.

**21 Claims, 14 Drawing Sheets**





# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO. | ISSUE DATE | PATENT NO. | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|------------|------------|---------------------|------------------|
| 13/928,313      | 01/05/2016 | 9229977    | 79531-000002        | 2955             |

98275 7590 12/16/2015  
Seyfarth Shaw LLP  
2029 Century Park East, Suite 3500  
Los Angeles, CA 90067-3063

## ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

### **Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)** (application filed on or after May 29, 2000)

The Patent Term Adjustment is 133 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Rule 14, Santa Monica, CA;  
Sharon Gill CHADHA, Santa Monica, CA;  
Xin CHENG, San Diego, CA;  
Parvinder CHADHA, Santa Monica, CA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit [SelectUSA.gov](http://SelectUSA.gov).

## PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

98275 2501 09/28/2015  
Seyfarth Shaw LLP  
2029 Century Park East, Suite 3500  
Los Angeles, CA 90067-3063

## Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

|                    |
|--------------------|
| (Depositor's name) |
| (Signature)        |
| (Date)             |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 13/928,313      | 06/26/2013  | Sharon Gill CHADHA   | 79531-000002        | 2955             |

TITLE OF INVENTION: REAL-TIME AND ADAPTIVE DATA MINING

| APP. TYPE      | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEES DUE | DATE DUE   |
|----------------|---------------|---------------|---------------------|----------------------|----------------|------------|
| nonprovisional | SMALL         | \$480         | \$0                 | \$0                  | \$480          | 11/30/2015 |

| EXAMINER      | ART UNIT | CLASS-SUBCLASS |
|---------------|----------|----------------|
| PHAM, MICHAEL | 2167     | 707-765000     |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47, Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,  
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1. Seyfarth Shaw LLP

2. \_\_\_\_\_

3. \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE (CITY and STATE OR COUNTRY)

RULE 14

SANTA MONICA, CALIFORNIA

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☒ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 50-2291 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29  
☐ Applicant asserting small entity status. See 37 CFR 1.37  
☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Puya Partow-Navid/

Date November 30, 2015

Typed or printed name Puya Partow-Navid

Registration No. 59,657

|                                               |          |                                    |        |                      |
|-----------------------------------------------|----------|------------------------------------|--------|----------------------|
| Electronic Patent Application Fee Transmittal |          |                                    |        |                      |
| Application Number:                           |          | 13928313                           |        |                      |
| Filing Date:                                  |          | 26-Jun-2013                        |        |                      |
| Title of Invention:                           |          | REAL-TIME AND ADAPTIVE DATA MINING |        |                      |
| First Named Inventor/Applicant Name:          |          | Sharon Gill CHADHA                 |        |                      |
| Filer:                                        |          | Puya Partow-Navid/Anna Tounian     |        |                      |
| Attorney Docket Number:                       |          | 79531-000002                       |        |                      |
| Filed as Small Entity                         |          |                                    |        |                      |
| Filing Fees for   Utility under 35 USC 111(a) |          |                                    |        |                      |
| Description                                   | Fee Code | Quantity                           | Amount | Sub-Total in USD(\$) |
| Basic Filing:                                 |          |                                    |        |                      |
| Pages:                                        |          |                                    |        |                      |
| Claims:                                       |          |                                    |        |                      |
| Miscellaneous-Filing:                         |          |                                    |        |                      |
| Petition:                                     |          |                                    |        |                      |
| Patent-Appeals-and-Interference:              |          |                                    |        |                      |
| Post-Allowance-and-Post-Issuance:             |          |                                    |        |                      |
| Utility Appl Issue Fee                        | 2501     | 1                                  | 480    | 480                  |

| Description        | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|--------------------|----------|----------|--------|----------------------|
| Extension-of-Time: |          |          |        |                      |
| Miscellaneous:     |          |          |        |                      |
| Total in USD (\$)  |          |          |        | 480                  |

| Electronic Acknowledgement Receipt   |                                    |
|--------------------------------------|------------------------------------|
| EFS ID:                              | 24212413                           |
| Application Number:                  | 13928313                           |
| International Application Number:    |                                    |
| Confirmation Number:                 | 2955                               |
| Title of Invention:                  | REAL-TIME AND ADAPTIVE DATA MINING |
| First Named Inventor/Applicant Name: | Sharon Gill CHADHA                 |
| Customer Number:                     | 98275                              |
| Filer:                               | Puya Partow-Navid/Anna Tounian     |
| Filer Authorized By:                 | Puya Partow-Navid                  |
| Attorney Docket Number:              | 79531-000002                       |
| Receipt Date:                        | 30-NOV-2015                        |
| Filing Date:                         | 26-JUN-2013                        |
| Time Stamp:                          | 18:42:41                           |
| Application Type:                    | Utility under 35 USC 111(a)        |

| Payment information:                                                                                                                                                                                                                                                                                                                                                      |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Submitted with Payment                                                                                                                                                                                                                                                                                                                                                    | yes                |
| Payment Type                                                                                                                                                                                                                                                                                                                                                              | Deposit Account    |
| Payment was successfully received in RAM                                                                                                                                                                                                                                                                                                                                  | \$ 480             |
| RAM confirmation Number                                                                                                                                                                                                                                                                                                                                                   | 7167               |
| Deposit Account                                                                                                                                                                                                                                                                                                                                                           | 502291             |
| Authorized User                                                                                                                                                                                                                                                                                                                                                           | PARTOW-NAVID, PUYA |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:<br>Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)<br>Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees) |                    |

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### File Listing:

| Document Number | Document Description | File Name                                               | File Size(Bytes)/ Message Digest         | Multi Part /.zip | Pages (if appl.) |
|-----------------|----------------------|---------------------------------------------------------|------------------------------------------|------------------|------------------|
| 1               | Transmittal Letter   | 79531-2_Transmittal-IssueFee_AsFiled_30November2015.pdf | 78348                                    | no               | 1                |
|                 |                      |                                                         | 2f9c6264b7147897c582cdaaae61fece01d54cf2 |                  |                  |

#### Warnings:

#### Information:

|   |                             |                                                 |                                          |    |   |
|---|-----------------------------|-------------------------------------------------|------------------------------------------|----|---|
| 2 | Issue Fee Payment (PTO-85B) | 79531-2_IssueFeeForm_AsFiled_30November2015.pdf | 285095                                   | no | 1 |
|   |                             |                                                 | e227d9b3ce0005b0b3b0c7989cfa39dcaef964ad |    |   |

#### Warnings:

#### Information:

|   |                      |              |                                          |    |   |
|---|----------------------|--------------|------------------------------------------|----|---|
| 3 | Fee Worksheet (SB06) | fee-info.pdf | 30461                                    | no | 2 |
|   |                      |              | 1b0ea8d9e6f682bab4f4197168c886f7244f3812 |    |   |

#### Warnings:

#### Information:

|                              |        |
|------------------------------|--------|
| Total Files Size (in bytes): | 393904 |
|------------------------------|--------|

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

#### New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

#### National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

#### New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

|                                                           |                        |
|-----------------------------------------------------------|------------------------|
| In re Patent Application of:<br>Sharon Gill CHADHA et al. | Customer No.: 15141    |
| Application No.: 13/928,313                               | Art Unit: 2167         |
| Filed: June 26, 2013                                      | Conf. No.: 2955        |
| For: REAL-TIME AND ADAPTIVE<br>DATA MINING                | Examiner: Michael PHAM |

Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**TRANSMITTAL OF ISSUE FEE**

Dear Sir:

In response to the Notice of Allowance dated August 28, 2015, enclosed are the following:

- ☒ Form Part B - Issue Fee Transmittal.
- ☒ Inventor(s) or Assignee(s) is entitled to **SMALL** entity.
- ☒ The Commissioner is hereby authorized to charge the Issue Fee in the amount of \$480 and any deficiency in payment or credit any overpayment to **Deposit Account No. 502291**.

Respectfully submitted,

Date: November 30, 2015

By: /Puya Partow-Navid/  
Puya Partow-Navid, Reg. No. 59,657  
Attorney for Applicants

Seyfarth Shaw LLP  
2029 Century Park East, Suite 3500  
Los Angeles, CA 90067-3021  
Direct Dial (310) 201-1550  
Facsimile (310) 201-5219



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## NOTICE OF ALLOWANCE AND FEE(S) DUE

98275 7590 08/28/2015  
Seyfarth Shaw LLP  
2029 Century Park East, Suite 3500  
Los Angeles, CA 90067-3063

EXAMINER

PHAM, MICHAEL

ART UNIT

PAPER NUMBER

2167

DATE MAILED: 08/28/2015

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

13/928,313

06/26/2013

Sharon Gill CHADHA

79531-000002

2955

TITLE OF INVENTION: REAL-TIME AND ADAPTIVE DATA MINING

| APPLN. TYPE    | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE   |
|----------------|---------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | SMALL         | \$480         | \$0                 | \$0                  | \$480            | 11/30/2015 |

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

## PART B - FEE(S) TRANSMITTAL

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P.O. Box 1450  
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

98275 7590 08/28/2015  
Seyfarth Shaw LLP  
2029 Century Park East, Suite 3500  
Los Angeles, CA 90067-3063

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

|                    |
|--------------------|
| (Depositor's name) |
| (Signature)        |
| (Date)             |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 13/928,313      | 06/26/2013  | Sharon Gill CHADHA   | 79531-000002        | 2955             |

TITLE OF INVENTION: REAL-TIME AND ADAPTIVE DATA MINING

| APPLN. TYPE    | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE   |
|----------------|---------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | SMALL         | \$480         | \$0                 | \$0                  | \$480            | 11/30/2015 |

| EXAMINER      | ART UNIT | CLASS-SUBCLASS |
|---------------|----------|----------------|
| PHAM, MICHAEL | 2167     | 707-765000     |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_



# UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.                    | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------------------|-------------|----------------------|---------------------|------------------|
| 13/928,313                         | 06/26/2013  | Sharon Gill CHADHA   | 79531-000002        | 2955             |
| 98275                              | 7590        | 08/28/2015           | EXAMINER            |                  |
| Seyfarth Shaw LLP                  |             |                      | PHAM, MICHAEL       |                  |
| 2029 Century Park East, Suite 3500 |             |                      | ART UNIT            | PAPER NUMBER     |
| Los Angeles, CA 90067-3063         |             |                      | 2167                |                  |

DATE MAILED: 08/28/2015

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

## OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

### Privacy Act Statement

**The Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

|                               |                                      |                                      |                                                  |
|-------------------------------|--------------------------------------|--------------------------------------|--------------------------------------------------|
| <b>Notice of Allowability</b> | <b>Application No.</b><br>13/928,313 | <b>Applicant(s)</b><br>CHADHA ET AL. |                                                  |
|                               | <b>Examiner</b><br>MICHAEL PHAM      | <b>Art Unit</b><br>2167              | <b>AIA (First Inventor to File) Status</b><br>No |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/4/15.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1-21. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

a) ☐ All    b) ☐ Some    \*c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

|                                                                                                                              |                                                                           |
|------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)                                                             | 5. <input checked="" type="checkbox"/> Examiner's Amendment/Comment       |
| 2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date <u>6/1/2015</u> | 6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                   | 7. <input type="checkbox"/> Other _____.                                  |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____.                                       |                                                                           |

|  |                                                                      |
|--|----------------------------------------------------------------------|
|  | /ROBERT BEAUSOLIEL JR/<br>Supervisory Patent Examiner, Art Unit 2167 |
|--|----------------------------------------------------------------------|

**DETAILED ACTION**

***Claim Status***

1. Claims 1-21 are pending.

***Allowable Subject Matter***

2. Claims 1-21 are allowed.
3. The following is a statement of reasons for the indication of allowable subject matter.

With respect to the independent claim 1, the prior art of record, single or in combination, does not teach or fairly suggest the step of:

"...selecting at least one data source from the plurality of data sources, the at least one data source being selected when results of the query are greater than or equal to an accuracy thresholds;

monitoring, based on a set schedule, the at least one data source to extract data from the at least one data source when at least an update to stored data that matches the query, newly added data that matches the query, or a combination thereof; and

establishing a communication channel with a second user based at least in part on the data extracted from the at least one monitored data source.”, in combination with the other claimed limitations.

Claim 10 and 19 recite similar limitations as claim 1 and are therefore allowed.

Dependent claims are allowed for being dependent to an already allowed claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

*Contact Information*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL PHAM whose telephone number is (571)272-3924. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on 571-272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 13/928,313  
Art Unit: 2167

Page 4

/M. P./  
Examiner, Art Unit 2167

/ROBERT BEAUSOLIEL JR/  
Supervisory Patent Examiner, Art Unit 2167

EAST Search History

EAST Search History (Prior Art)

| Ref # | Hits | Search Query                                                            | DBs                                                                        | Default Operator | Plurals | Time Stamp          |
|-------|------|-------------------------------------------------------------------------|----------------------------------------------------------------------------|------------------|---------|---------------------|
| S73   | 1    | "13928313"                                                              | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME             | OFF     | 2015/08/11<br>17:55 |
| S74   | 0    | "20050283473"                                                           | USPAT                                                                      | OR               | OFF     | 2015/08/14<br>16:05 |
| S75   | 1    | "20050283473"                                                           | US-PGPUB;<br>USPAT                                                         | OR               | OFF     | 2015/08/14<br>16:06 |
| S76   | 2    | "20120150645"                                                           | US-PGPUB;<br>USPAT                                                         | OR               | OFF     | 2015/08/14<br>16:13 |
| S77   | 1    | "13928313"                                                              | US-PGPUB;<br>USPAT                                                         | OR               | OFF     | 2015/08/14<br>16:17 |
| S80   | 2    | "20090287746"                                                           | US-PGPUB;<br>USPAT                                                         | OR               | OFF     | 2015/08/15<br>13:18 |
| S79   | 1    | "20040267557"                                                           | US-PGPUB;<br>USPAT                                                         | OR               | OFF     | 2015/08/15<br>13:18 |
| S78   | 0    | "20040267557"                                                           | USPAT                                                                      | OR               | OFF     | 2015/08/15<br>13:18 |
| S84   | 82   | (chadha-sharon or cheng-xin or chadha-parvinder).in. and @pd<"20120802" | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME             | OFF     | 2015/08/17<br>14:28 |
| S83   | 121  | (chadha-sharon or cheng-xin or chadha-parvinder).in. and @ad<"20120802" | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME             | OFF     | 2015/08/17<br>14:28 |
| S82   | 314  | (chadha-sharon or cheng-xin or chadha-parvinder).in.                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME             | OFF     | 2015/08/17<br>14:28 |
| S81   | 7    | query topic expand\$3 analyze                                           | US-PGPUB;<br>USPAT                                                         | SAME             | OFF     | 2015/08/17<br>14:28 |
| S90   | 14   | data min\$3 open source comments                                        | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;                                     | SAME             | OFF     | 2015/08/17<br>14:29 |

|     |     |                                                                                                                                                                                                                               |                                                                            |      |     |                     |
|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|------|-----|---------------------|
|     |     |                                                                                                                                                                                                                               | EPO; JPO;<br>DERWENT;<br>IBM_TDB                                           |      |     |                     |
| S89 | 2   | S88 AND ( (G06F17/2785 OR G06F17/3061 OR G06F17/30672).CPC. )                                                                                                                                                                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/17<br>14:29 |
| S88 | 16  | (quer\$3 or search\$3) expand\$3 determin\$3 (source or resource) and (datamin\$3 or "data mining") (source or resource) (analyz\$3 or stud\$3)                                                                               | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/17<br>14:29 |
| S87 | 4   | S81 AND ( (G06F17/30672 OR G06F17/30442 OR G06F17/30796).CPC. or 707/765.ccls.)                                                                                                                                               | US-PGPUB;<br>USPAT                                                         | SAME | OFF | 2015/08/17<br>14:29 |
| S86 | 4   | S81 AND ( (G06F17/30672 OR G06F17/30442 OR G06F17/30796).CPC. )                                                                                                                                                               | US-PGPUB;<br>USPAT                                                         | SAME | OFF | 2015/08/17<br>14:29 |
| S85 | 4   | S81 AND ( (G06F17/30672 OR G06F17/30442 OR G06F17/30796).CPC. )                                                                                                                                                               | US-PGPUB;<br>USPAT                                                         | SAME | OFF | 2015/08/17<br>14:29 |
| S91 | 81  | monitor data source mining and @ad<"20120802"                                                                                                                                                                                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/17<br>14:30 |
| S94 | 4   | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) customer and @ad<"20120802" | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/17<br>17:47 |
| S93 | 124 | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and monitor\$3 analyz\$3 query (resource or source or data or database)                                           | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/17<br>17:47 |
| S92 | 579 | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) analyz\$3                                                                                                         | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/17<br>17:47 |
| S97 | 7   | quer\$3 expan\$4 and extract\$3 quer\$3 (resource or source or database) and monitor\$3 query (resource or source or database) data analytics                                                                                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;            | SAME | OFF | 2015/08/17<br>17:48 |

|      |    |                                                                                                                                                                                                                                     |                                                          |      |     |                  |
|------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|------|-----|------------------|
|      |    |                                                                                                                                                                                                                                     | IBM_TDB                                                  |      |     |                  |
| S96  | 14 | quer\$3 expan\$4 and extract\$3 query resource and data analytics                                                                                                                                                                   | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/17 17:48 |
| S95  | 2  | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) data analytics and @ad<"20120802" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/17 17:48 |
| S98  | 6  | ((("6260041") or ("20050283473") or ("20120150645"))).PN.                                                                                                                                                                           | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR   | OFF | 2015/08/17 18:33 |
| S100 | 1  | "13928313"                                                                                                                                                                                                                          | US-PGPUB; USPAT                                          | OR   | OFF | 2015/08/17 19:25 |
| S99  | 0  | "13928313"                                                                                                                                                                                                                          | USPAT                                                    | OR   | OFF | 2015/08/17 19:25 |
| S101 | 0  | "13928313"                                                                                                                                                                                                                          | USPAT                                                    | OR   | OFF | 2015/08/18 19:22 |
| S102 | 1  | "13928313"                                                                                                                                                                                                                          | US-PGPUB; USPAT                                          | OR   | OFF | 2015/08/18 19:23 |
| S104 | 0  | "13723826"                                                                                                                                                                                                                          | US-PGPUB; USPAT                                          | OR   | OFF | 2015/08/19 11:15 |
| S103 | 0  | "13723826"                                                                                                                                                                                                                          | USPAT                                                    | OR   | OFF | 2015/08/19 11:15 |
| S106 | 16 | (quer\$3 or search\$3) expand\$3 determin\$3 (source or resource) and (datamin\$3 or "data mining") (source or resource) (analyz\$3 or stud\$3)                                                                                     | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/20 19:24 |
| S105 | 7  | quer\$3 expan\$4 and extract\$3 quer\$3 (resource or source or database) and monitor\$3 query (resource or source or database) data analytics                                                                                       | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/20 19:24 |
| S107 | 2  | "8301649"                                                                                                                                                                                                                           | USPAT                                                    | OR   | OFF | 2015/08/21 17:11 |
| L3   | 0  | monitor\$3 data source plurality datamining                                                                                                                                                                                         | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:20 |
| L2   | 63 | monitor\$3 data source plurality data mining                                                                                                                                                                                        | US-PGPUB; USPAT;                                         | SAME | OFF | 2015/08/21 17:20 |

|     |     |                                                                                                                                                                                                                                                       |                                                                            |      |     |                     |
|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|------|-----|---------------------|
|     |     |                                                                                                                                                                                                                                                       | USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB                        |      |     |                     |
| L1  | 0   | monitor\$3 datasource plurality data mining                                                                                                                                                                                                           | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/21<br>17:20 |
| L4  | 60  | monitor\$3 data source plurality data mining and connect\$3                                                                                                                                                                                           | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/21<br>17:21 |
| L6  | 170 | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) and @ad<"20120802"                                  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/21<br>17:22 |
| L5  | 0   | query expan\$4 monitor\$3 data source plurality data mining and connect\$3                                                                                                                                                                            | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/21<br>17:22 |
| L7  | 2   | ("data mining" or "data mine" or "datamine" or "datamining") query (expan\$4) (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) and @ad<"20120802"                       | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/21<br>17:23 |
| L9  | 39  | ("20130282702"   "20050283473"   "20120150645"   "8301486"   "20130325838"   "8078489"   "20040015481"   "20110047161"   "8498889"   "20080270344"   "20080201339"   "6260041").PN. and @ad<"20120802"                                                | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | OR   | OFF | 2015/08/21<br>17:24 |
| L8  | 39  | ("20130282702"   "20050283473"   "20120150645"   "8301486"   "20130325838"   "8078489"   "20040015481"   "20110047161"   "8498889"   "20080270344"   "20080201339"   "6260041").PN. and @ad<"20120802"                                                | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/21<br>17:24 |
| L10 | 1   | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) and second user customer service and @ad<"20120802" | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS;<br>EPO; JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/08/21<br>17:28 |

|     |    |                                                                                                                                                                                                                                                                                                               |                                                          |      |     |                  |
|-----|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|------|-----|------------------|
| L12 | 59 | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) and "customer service" and @ad<"20120802"                                                                   | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:29 |
| L11 | 74 | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) and customer service and @ad<"20120802"                                                                     | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:29 |
| L13 | 2  | ("data mining" or "data mine" or "datamine" or "datamining") query expan\$4 (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) and "customer service" and @ad<"20120802"                                                          | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:31 |
| L14 | 2  | ("data mining" or "data mine" or "datamine" or "datamining") query expan\$4 (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) and connect\$3 user and @ad<"20120802"                                                             | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:38 |
| L16 | 14 | "20100070554"                                                                                                                                                                                                                                                                                                 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:44 |
| L15 | 0  | "13723826"                                                                                                                                                                                                                                                                                                    | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:44 |
| L17 | 46 | ("20080065237"   "20100070554"   "20110320458"   "8676792"   "20070036146"   "20130346396"   "8688667"   "20110302117"   "7580938"   "8661015"   "20120130978"   "6891939"   "20100042619"   "20140019441"   "20110320423"   "20030026413"   "20110276507"   "8484190"   "20130246415").PN.                   | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:45 |
| L18 | 25 | ("20080065237"   "20100070554"   "20110320458"   "8676792"   "20070036146"   "20130346396"   "8688667"   "20110302117"   "7580938"   "8661015"   "20120130978"   "6891939"   "20100042619"   "20140019441"   "20110320423"   "20030026413"   "20110276507"   "8484190"   "20130246415").PN. and communicat\$3 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:46 |
|     |    |                                                                                                                                                                                                                                                                                                               |                                                          |      |     |                  |

|     |    |                                                                                                                                                                                                                                                                                  |                                                          |      |     |                  |
|-----|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|------|-----|------------------|
| L19 | 6  | web crawler ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) and communicat\$4 and @ad< "20120802"                              | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:52 |
| L20 | 6  | crawler ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) and communicat\$4 and @ad< "20120802"                                  | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:53 |
| L22 | 5  | (craw\$3 or spider) ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) and (communicat\$4 or connect\$3) user and @ad< "20120802" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:54 |
| L21 | 6  | (craw\$3 or spider) ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) and communicat\$4 and @ad< "20120802"                      | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 17:54 |
| L23 | 41 | "6260041"                                                                                                                                                                                                                                                                        | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 18:07 |
| L24 | 4  | "20120150645"                                                                                                                                                                                                                                                                    | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 18:09 |
| L25 | 2  | "20050283473"                                                                                                                                                                                                                                                                    | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 18:11 |
| L26 | 40 | "6260041" and @ad< "20120802"                                                                                                                                                                                                                                                    | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME | OFF | 2015/08/21 18:27 |

EAST Search History (Interference)

<This search history is empty>

**8/ 21/ 2015 6:31:54 PM**  
**C:\ Users\ mphan1\ Documents\ EAST\ Workspaces\ 13928313.wsp**

|                                                                                                                 |                                            |                                                                 |  |
|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------|--|
| <b>Issue Classification</b><br> | <b>Application/Control No.</b><br>13928313 | <b>Applicant(s)/Patent Under Reexamination</b><br>CHADHA ET AL. |  |
|                                                                                                                 | <b>Examiner</b><br>MICHAEL PHAM            | <b>Art Unit</b><br>2167                                         |  |

| CPC    |                                                                                     |    |                                                                                     |       |      |            |
|--------|-------------------------------------------------------------------------------------|----|-------------------------------------------------------------------------------------|-------|------|------------|
| Symbol |                                                                                     |    |                                                                                     |       | Type | Version    |
| G06F   |    | 17 |    | 30442 | F    | 2013-01-01 |
| G06F   |    | 17 |    | 30867 | I    | 2013-01-01 |
| G06F   |    | 17 |    | 30536 | I    | 2013-01-01 |
| G06F   |    | 17 |    | 30864 | I    | 2013-01-01 |
|        |    |    |    |       |      |            |
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| CPC Combination Sets                                                                |                                                                                     |      |     |         |         |
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| Symbol                                                                              |                                                                                     | Type | Set | Ranking | Version |
|  |  |      |     |         |         |
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|                                                                     |            |                                    |                   |
|---------------------------------------------------------------------|------------|------------------------------------|-------------------|
| /MICHAEL PHAM/<br>Examiner.Art Unit 2167                            | 8/21/2015  | <b>Total Claims Allowed:</b><br>21 |                   |
| (Assistant Examiner)                                                | (Date)     |                                    |                   |
| /ROBERT BEAUSOLIEL JR/<br>Supervisory Patent Examiner.Art Unit 2167 | 08/24/2015 | O.G. Print Claim(s)                | O.G. Print Figure |
| (Primary Examiner)                                                  | (Date)     | 1                                  | 1                 |



|                                                                                                                 |                                            |                                                                 |
|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------|
| <b>Issue Classification</b><br> | <b>Application/Control No.</b><br>13928313 | <b>Applicant(s)/Patent Under Reexamination</b><br>CHADHA ET AL. |
|                                                                                                                 | <b>Examiner</b><br>MICHAEL PHAM            | <b>Art Unit</b><br>2167                                         |

| <input checked="" type="checkbox"/> <b>Claims renumbered in the same order as presented by applicant</b> <input type="checkbox"/> <b>CPA</b> <input type="checkbox"/> <b>T.D.</b> <input type="checkbox"/> <b>R.1.47</b> |          |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|
| Final                                                                                                                                                                                                                    | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original |
| 1                                                                                                                                                                                                                        | 1        | 17    | 17       |       |          |       |          |       |          |       |          |       |          |       |          |
| 2                                                                                                                                                                                                                        | 2        | 18    | 18       |       |          |       |          |       |          |       |          |       |          |       |          |
| 3                                                                                                                                                                                                                        | 3        | 19    | 19       |       |          |       |          |       |          |       |          |       |          |       |          |
| 4                                                                                                                                                                                                                        | 4        | 20    | 20       |       |          |       |          |       |          |       |          |       |          |       |          |
| 5                                                                                                                                                                                                                        | 5        | 21    | 21       |       |          |       |          |       |          |       |          |       |          |       |          |
| 6                                                                                                                                                                                                                        | 6        |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| 7                                                                                                                                                                                                                        | 7        |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| 8                                                                                                                                                                                                                        | 8        |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| 9                                                                                                                                                                                                                        | 9        |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| 10                                                                                                                                                                                                                       | 10       |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| 11                                                                                                                                                                                                                       | 11       |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| 12                                                                                                                                                                                                                       | 12       |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| 13                                                                                                                                                                                                                       | 13       |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| 14                                                                                                                                                                                                                       | 14       |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| 15                                                                                                                                                                                                                       | 15       |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| 16                                                                                                                                                                                                                       | 16       |       |          |       |          |       |          |       |          |       |          |       |          |       |          |

|                                                                                               |                          |                                        |                            |
|-----------------------------------------------------------------------------------------------|--------------------------|----------------------------------------|----------------------------|
| /MICHAEL PHAM/<br>Examiner.Art Unit 2167<br><br>(Assistant Examiner)                          | 8/21/2015<br><br>(Date)  | <b>Total Claims Allowed:</b><br><br>21 |                            |
| /ROBERT BEAUSOLIEL JR/<br>Supervisory Patent Examiner.Art Unit 2167<br><br>(Primary Examiner) | 08/24/2015<br><br>(Date) | O.G. Print Claim(s)<br><br>1           | O.G. Print Figure<br><br>1 |

|                                                                                                     |                        |                    |            |  |
|-----------------------------------------------------------------------------------------------------|------------------------|--------------------|------------|--|
| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br>( Not for submission under 37 CFR 1.99) | Application Number     |                    | 13928313   |  |
|                                                                                                     | Filing Date            |                    | 2013-06-26 |  |
|                                                                                                     | First Named Inventor   | Sharon Gill CHADHA |            |  |
|                                                                                                     | Art Unit               | 2167               |            |  |
|                                                                                                     | Examiner Name          | Michael PHAM       |            |  |
|                                                                                                     | Attorney Docket Number | 79531-000002       |            |  |

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| Examiner Initial* | Cite No | Patent Number | Kind Code <sup>1</sup> | Issue Date | Name of Patentee or Applicant of cited Document | Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear |
| /M.P./            | 1       | 6260041       | B1                     | 2001-07-10 | Carlos M. GONZALEZ et al.                       |                                                                        |

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| /M.P./                              | 1       | 20050283473        | A1                     | 2005-12-22       | Armand ROUSSO et al.                            |                                                                        |
| /M.P./                              | 2       | 20120150645        | A1                     | 2012-06-14       | Srinivas A. MANDYAM et al.                      |                                                                        |

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| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br>( Not for submission under 37 CFR 1.99) | Application Number     |                    | 13928313   |
|                                                                                                     | Filing Date            |                    | 2013-06-26 |
|                                                                                                     | First Named Inventor   | Sharon Gill CHADHA |            |
|                                                                                                     | Art Unit               | 2167               |            |
|                                                                                                     | Examiner Name          | Michael PHAM       |            |
|                                                                                                     | Attorney Docket Number | 79531-000002       |            |

| Examiner Initials* | Cite No | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published. | T <sup>5</sup>           |
|--------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| /M.P./             | 1       | INTERNATIONAL SEARCH REPORT AND WRITTEN OPINION - PCT/US2014/044134 - ISA/US - 2015-04-01 (79531-000005).                                                                                                                                                       | <input type="checkbox"/> |

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|                    |                |                 |            |
|--------------------|----------------|-----------------|------------|
| Examiner Signature | /Michael Pham/ | Date Considered | 08/17/2015 |
|--------------------|----------------|-----------------|------------|

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> See Kind Codes of USPTO Patent Documents at [www.USPTO.GOV](http://www.USPTO.GOV) or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

|                        |                    |
|------------------------|--------------------|
| Application Number     | 13928313           |
| Filing Date            | 2013-06-26         |
| First Named Inventor   | Sharon Gill CHADHA |
| Art Unit               | 2167               |
| Examiner Name          | Michael PHAM       |
| Attorney Docket Number | 79531-000002       |

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

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- ☐ See attached certification statement.
- ☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☐ A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

|            |                     |                     |            |
|------------|---------------------|---------------------|------------|
| Signature  | /Puya Partow-Navid/ | Date (YYYY-MM-DD)   | 2015-06-01 |
| Name/Print | Puya Partow-Navid   | Registration Number | 59657      |

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------|
| <b><i>Index of Claims</i></b><br> | <b>Application/Control No.</b><br>13928313 | <b>Applicant(s)/Patent Under Reexamination</b><br>CHADHA ET AL. |
|                                                                                                                    | <b>Examiner</b><br>MICHAEL PHAM            | <b>Art Unit</b><br>2167                                         |

|   |          |   |            |   |              |   |          |
|---|----------|---|------------|---|--------------|---|----------|
| ✓ | Rejected | - | Cancelled  | N | Non-Elected  | A | Appeal   |
| = | Allowed  | ÷ | Restricted | I | Interference | O | Objected |

☐ Claims renumbered in the same order as presented by applicant

☐ CPA

☐ T.D.

☐ R.1.47

| CLAIM |          | DATE       |            |  |  |  |  |  |  |
|-------|----------|------------|------------|--|--|--|--|--|--|
| Final | Original | 01/26/2015 | 08/21/2015 |  |  |  |  |  |  |
|       | 1        | ✓          | =          |  |  |  |  |  |  |
|       | 2        | ✓          | =          |  |  |  |  |  |  |
|       | 3        | ✓          | =          |  |  |  |  |  |  |
|       | 4        | ✓          | =          |  |  |  |  |  |  |
|       | 5        | ✓          | =          |  |  |  |  |  |  |
|       | 6        | ✓          | =          |  |  |  |  |  |  |
|       | 7        | ✓          | =          |  |  |  |  |  |  |
|       | 8        | ✓          | =          |  |  |  |  |  |  |
|       | 9        | ✓          | =          |  |  |  |  |  |  |
|       | 10       | ✓          | =          |  |  |  |  |  |  |
|       | 11       | ✓          | =          |  |  |  |  |  |  |
|       | 12       | ✓          | =          |  |  |  |  |  |  |
|       | 13       | ✓          | =          |  |  |  |  |  |  |
|       | 14       | ✓          | =          |  |  |  |  |  |  |
|       | 15       | ✓          | =          |  |  |  |  |  |  |
|       | 16       | ✓          | =          |  |  |  |  |  |  |
|       | 17       | ✓          | =          |  |  |  |  |  |  |
|       | 18       | ✓          | =          |  |  |  |  |  |  |
|       | 19       | ✓          | =          |  |  |  |  |  |  |
|       | 20       | ✓          | =          |  |  |  |  |  |  |
|       | 21       | ✓          | =          |  |  |  |  |  |  |

|                                                                                                              |                                                |                                                                     |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------|
| <b>Search Notes</b><br><br> | <b>Application/Control No.</b><br><br>13928313 | <b>Applicant(s)/Patent Under Reexamination</b><br><br>CHADHA ET AL. |
|                                                                                                              | <b>Examiner</b><br><br>MICHAEL PHAM            | <b>Art Unit</b><br><br>2167                                         |

| CPC- SEARCHED |      |          |
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| Symbol        | Date | Examiner |
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| Symbol                          | Date | Examiner |
|                                 |      |          |

| US CLASSIFICATION SEARCHED |          |      |          |
|----------------------------|----------|------|----------|
| Class                      | Subclass | Date | Examiner |
|                            |          |      |          |

| SEARCH NOTES                                                           |           |          |
|------------------------------------------------------------------------|-----------|----------|
| Search Notes                                                           | Date      | Examiner |
| G06F17/30672, G06F17/30442, G06F17/30796, 707/765, and 707/722 limited | 8/21/2015 | MP       |
| east search                                                            | 8/21/2015 | MP       |
| npl search (google, google scholar, ip.com )                           | 8/21/2015 | MP       |

| INTERFERENCE SEARCH  |                                        |           |          |
|----------------------|----------------------------------------|-----------|----------|
| US Class/ CPC Symbol | US Subclass / CPC Group                | Date      | Examiner |
| 707                  | 765, 722, uspat, uspgpub, upad limited | 8/21/2015 | MP       |

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Manage

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New Query

Main Concept Text  
(crawler or spider) ("data mining" or "data mine" o...)

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COLLAPSE MENU

Views:

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Relevance: 3

0 Selected Documents

ACTIONS

1 - 50 Results

Total Matched: 82

7 Results

VIEW

1. Real-time and adaptive data mining

A method of analyzing data is presented. The method includes generating a query based on a topic of interest, expanding search terms of the query, executing the query on one or more data sources, monitoring a specific data source selected from the one or more data sources. The monitoring is...

ASSIGNMENT: RULE 14  
WO2014210184A3 | WIPO APPLICATIONS | 04-JUN-2015

2. Global database management system integrating heterogeneous data sources

A database management system is disclosed for solving distributed queries across a range of resources. In known systems, database retrieval from multiple sources suffers from problems of reconciliation of data between resources and resource or data incompatibility. The invention allows full database...

ASSIGNMENT: SPITON TELECOM PLC  
WO2009298029A3 | WIPO APPLICATIONS | 13-MAR-2009

3. A privacy preserving data-mining protocol

Privacy Preserving Data-Mining Protocol, between a secure "aggregator" and "sources" having respective access to privacy-sensitive micro-data, the protocol including: the "aggregator" accepting a user query and transmitting a parameter list for that query to the "sources" (often including privacy-...

ASSIGNMENT: CROSSIX SOLUTIONS LLC  
CA2561551A1 | CANADIAN APPLICATIONS | 13-OCT-2005

4. A privacy preserving data-mining protocol

Privacy Preserving Data-Mining Protocol, between a secure "aggregator" and "sources" having respective access to privacy-sensitive micro-data, the protocol including: the "aggregator" accepting a user query and transmitting a parameter list for that query to the "sources" (often including privacy-...

ASSIGNMENT: CROSSIX SOLUTIONS LLC (+1)  
CA2561551C | CANADIAN PATENTS | 29-MAY-2013

5. A privacy preserving data-mining protocol

Privacy Preserving Data-Mining Protocol, between a secure 'aggregator' and 'sources' having respective access to privacy-sensitive micro-data, the protocol including: the 'aggregator' accepting a user query and transmitting a parameter list for that query to the 'sources' (often including...

ASSIGNMENT: CROSSIX SOLUTIONS LLC  
WO2009034175A3 | WIPO APPLICATIONS | 23-APR-2009

6. System and method for dynamic data-mining and on-line communication of customized information

A method and system for dynamically searching databases in response to a query is provided by the present invention. More specifically, a system and method for dynamic data-mining and on-line communication of customized information. This method includes the steps of first creating a search-specific...

ASSIGNMENT: MANTRIA TECH INC  
US6266668 | US PATENTS | 24-JUL-2001

7. System and methods for highly distributed wide-area data management of a network of data sources through a database interface

Methods and a system that provide a network of data sources in terms of a traditional database schema, convert traditional database queries into network messages, and route those messages to those data sources which have relevant data, in some instances through designated query nodes. In the present...

ASSIGNMENT: CENTERBOARD

Sample

TOP 82 RESULTS

Relevance

FULL VIEW

0 Results

0 Results

82 Results

Publication Date

FULL VIEW

1994

2015

Assignment by Relevance

FULL VIEW

RULE 14 (1)

BRITISH TELECOM PLC (1)

CROSSIX SOLUTIONS LLC (5)

MANTRIA TECH INC (1)

CENTERBOARD (1)

MULTEX COM INC (1)

DRYDEN TECH (1)

View More Visualizations

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|                 | Manage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Discover | Map |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|
| New Query       | <p>8. A method and system for providing data to a user based on a user's query</p> <p>ASSIGNMENT: MULTEX COM INC<br/>GB2363668   GREAT BRITAIN PATENTS   29-OCT-2003</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |     |
| Save Query      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |     |
| Export Results  | <p>9. Method and system for dynamic data-mining and on-line communication of customized information</p> <p>The present invention provides a method and system for dynamically searching databases in response to a query, and more specifically, a system and method for dynamic data-mining and on-line communication of customized information. This method includes the step of first creating a search-specific...</p> <p>ASSIGNMENT: DRYKEN TECH<br/>WO200608568A1   WIPO APPLICATIONS   17-FEB-2006</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |     |
| Quick Downloads |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |     |
| Recent Items    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |     |
| COLLAPSE MENU   | <p>10. Tools for health and wellness</p> <p>A tool for providing health and/or wellness services is described herein. Not necessarily clean or unclean data about a plurality of self-selected or non-selected or unselected subjects is received. The data can be aggregated and mined at least in part by employing a statistical algorithm, a...</p> <p>ASSIGNMENT: MICROSOFT CORP<br/>WO2008055020A1   WIPO APPLICATIONS   08-MAY-2008</p> <p>11. Double blinded privacy-safe distributed data mining protocol</p> <p>A Double Blinded Privacy-Safe Distributed Data Mining Protocol is disclosed, among an aggregator, a data consumer entity having privacy-sensitive information, and data source entities having privacy-sensitive information. The aggregator does not have access to the privacy-sensitive information at...</p> <p>ASSIGNMENT: CROSSIX SOLUTIONS INC<br/>CA2745951A1   CANADIAN APPLICATIONS   01-JUL-2010</p> <p>12. Index and query processor for data and information retrieval, integration and sharing from multiple disparate data sources</p> <p>A query server system (figure 2) that processes queries of data and information stored in one or more data sources (130). The query server system includes a query server (100, 120, 121), a query source interface connected to the query server for receiving queries, data and information source (130)...</p> <p>ASSIGNMENT: WHAMTECH INC<br/>WO2004095428A3   WIPO APPLICATIONS   08-DEC-2005</p> <p>13. A privacy preserving data-mining protocol</p> <p>Privacy Preserving Data-Mining Protocol, between a secure 'aggregator' and 'sources' having respective access to privacy-sensitive micro-data, the protocol including: the 'aggregator' accepting a user query and transmitting a parameter list for that query to the 'sources' (often including...</p> <p>ASSIGNMENT: CROSSIX SOLUTIONS LLC<br/>EP1761893A2   EUROPEAN APPLICATIONS   14-MAR-2007</p> <p>14. Apparatus and method for processing queries against combinations of data sources</p> <p>A computer readable medium includes executable instructions to receive a query based on a semantic abstraction that describes at least one underlying data source. The semantic abstraction includes at least one nested semantic abstraction. The query is analyzed to produce data source specific...</p> <p>ASSIGNMENT: BUSINESS OBJECTS SA<br/>WO2006027755A3   WIPO APPLICATIONS   18-SEP-2006</p> <p>15. System and methods for highly distributed wide-area data management of a network of data sources through a database interface</p> <p>Methods and a system that provide a network of data sources in terms of a traditional database schema, convert traditional database queries into network messages, and route those messages to those data sources which have relevant data, in some instances through designated query nodes. In the present...</p> <p>ASSIGNMENT: SIEMENS TECH TO BUSINESS CTR LLC<br/>WO2002073470A8   WIPO APPLICATIONS   06-MAR-2003</p> <p>16. System and method for retrieving data from a database system</p> |          |     |





|                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>New Query</div> <div>Save Query</div> <div>Export Results</div> <div>Quick Downloads</div> <div>Recent Items</div> | <p>A fast and efficient system and method for retrieving data from a database system by a <del>Miner</del> <del>external database</del> <del>Miner</del> is provided, in which the database system accepts and processes data requests in a second query language in response to data queries issued in a first query language by the...</p> <p>ASSIGNMENT: COSMOS INC<br/>CA2385571A1   CANADIAN APPLICATIONS   18-JUN-2003</p>                                                                                                                                    |
| <div>COLLAPSE MENU</div>                                                                                                | <p>17. Method and device for data query from heterogeneous data sources</p> <p>The present invention discloses a method and device for data query from heterogeneous data sources in order to solve the problem of complexity, time-consuming and inefficiency of the prior art data query from heterogeneous data sources. Said method includes: determining, according to a received data...</p> <p>ASSIGNMENT: ZTE CORP<br/>WG2010145157A1   WIPO APPLICATIONS   23-DEC-2010</p>                                                                                 |
|                                                                                                                         | <p>18. A privacy preserving data-mining protocol</p> <p>Privacy Preserving Data-Mining Protocol, between a secure 'aggregator' and 'sources' having respective access to privacy-sensitive micro-data, the protocol including: the 'aggregator' accepting a user query and transmitting a parameter list for that query to the 'sources' (often including...</p> <p>ASSIGNMENT: CROSSIX SOLUTIONS LLC<br/>WO2005094175A2   WIPO APPLICATIONS   13-OCT-2005</p>                                                                                                      |
|                                                                                                                         | <p>19. Platform independent plug-in methods and systems for data mining and analytics</p> <p>The present invention comprises methods, system, and apparatuses for generating and delivering analytic results for any simple or highly complex problem for which data exists that software or similar automated means can analyze. The present invention thus contemplates methods, systems, apparatuses,...</p> <p>ASSIGNMENT: BRUCKHAUSE, TRUMANN [+1]<br/>US8417715   US PATENTS   09-APR-2013</p>                                                                |
|                                                                                                                         | <p>20. Tools for health and wellness</p> <p>A tool for providing health and/or wellness services is described herein. Not necessarily clean or unclean data about a plurality of self-selected or non-selected or unselected subjects is received. The data can be aggregated and mined at least in part by employing a statistical algorithm, a...</p> <p>ASSIGNMENT: MICROSOFT TECH LICENSING LLC<br/>US7647285   US PATENTS   12-JAN-2010</p>                                                                                                                    |
|                                                                                                                         | <p>21. System and methods for highly distributed wide-area data management of a network of data sources through a database interface</p> <p>Methods and a system that provide a network of data sources in terms of a traditional database schema, convert traditional database queries into network messages, and route those messages to those data sources which have relevant data. In the present invention, the network interface of the data...</p> <p>ASSIGNMENT: SIEMENS TECH TO BUSINESS CTP LLC<br/>WG2001040973A3   WIPO APPLICATIONS   22-AUG-2002</p> |
|                                                                                                                         | <p>22. Method and system for dynamic data-mining and on-line communication of customized information</p> <p>A method and system for dynamically searching databases in response to a query is provided by the present invention. More specifically, a system and method for dynamic data-mining and on-line communication of customized information. This method includes the steps of first creating a search-specific...</p> <p>ASSIGNMENT: VANDERVELDT INGRID V. [+1]<br/>US20020049704   US APPLICATIONS   25-APR-2002</p>                                      |
|                                                                                                                         | <p>23. Integrated database and data-mining system</p> <p>A method and apparatus for mining data relationships from an integrated database and data-mining system are disclosed. A set of frequent 1-itemsets is generated using a group-by query on data transactions. From these frequent 1-itemsets and the transactions, frequent 2-itemsets are determined. A...</p> <p>ASSIGNMENT: INTEL BUSINESS MACHINES CORP<br/>US6324533   US PATENTS   27-NOV-2001</p>                                                                                                   |
|                                                                                                                         | <p>24. Tools for health and wellness</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <div>New Query</div> <div>Save Query</div> <div>Export Results</div> <div>Quick Downloads</div> <div>Recent Items</div> <div>COLLAPSE MENU</div> | <p>A test for providing health and/or wellness services is described herein. Not necessarily</p> <p>Method or device for determining about a plurality of self-selected or non-selected or unselected subjects is received. The data can be aggregated and mined at least in part by employing a statistical algorithm, a...</p> <p>ASSIGNMENT: MICROSOFT TECH LICENSING LLC<br/>US20070112598   US APPLICATIONS   17-MAY-2007</p>                                                                       |  |
|                                                                                                                                                  | <p>25. Retrieval of data from a stored database</p> <p>ASSIGNMENT: COMPUTER RESOURCES RSCH LT<br/>GB2248951B   GREAT BRITAIN PATENTS   06-APR-1994</p>                                                                                                                                                                                                                                                                                                                                                   |                                                                                     |
|                                                                                                                                                  | <p>26. Double blinded privacy-safe distributed data mining protocol</p> <p>A Double Blinded Privacy-Safe Distributed Data Mining Protocol is disclosed, among an aggregator, a data consumer entity having privacy-sensitive information, and data source entities having privacy-sensitive information. The aggregator does not have access to the privacy-sensitive information at...</p> <p>ASSIGNMENT: CROSEK SOLUTIONS INC<br/>WO2010073214A2   WIPO APPLICATIONS   01-JUL-2010</p>                 |                                                                                     |
|                                                                                                                                                  | <p>27. Querying data and an associated ontology in a database management system</p> <p>A method, apparatus, and computer program for querying data and an associated ontology in a database (304). An ontology is associated with data in database (304). Responsive to receiving a query (2702) from a requestor (1002), relational data in the database (304) is identified using the query...</p> <p>ASSIGNMENT: IPTV BUSINESS MACHINES CORP<br/>WO2009088721A3   WIPO APPLICATIONS   26-NOV-2008</p> |                                                                                     |
|                                                                                                                                                  | <p>28. Privacy preserving data-mining protocol</p> <p>Privacy Preserving Data-Mining Protocol, between a secure "aggregator" and "sources" having respective access to privacy-sensitive micro-data, the protocol including: the "aggregator" accepting a user query and transmitting a parameter list for that query to the "sources" (often including...</p> <p>ASSIGNMENT: CROSEK SOLUTIONS INC<br/>US7823207   US PATENTS   26-OCT-2010</p>                                                          |                                                                                     |
|                                                                                                                                                  | <p>29. Distributed database systems and methods</p> <p>Systems and methods for distributed database management are disclosed. In an embodiment, a method of accessing information in a distributed database system having one or more data servers includes establishing a plurality of lattice structures configured to store data elements having inter-related...</p> <p>ASSIGNMENT: BOEING CO<br/>WO2007089264A3   WIPO APPLICATIONS   15-NOV-2007</p>                                               |                                                                                     |
|                                                                                                                                                  | <p>30. Indexing databases for efficient relational querying</p> <p>A computer system for indexing databases for efficient relational querying. A set of index files is created to index an entire set of structured or semi-structured source data. The source data is tokenized. During the tokenization of the source data the source data is manipulated in accordance with...</p> <p>ASSIGNMENT: KIBIT TECH CORP<br/>CA2253744A1   CANADIAN APPLICATIONS   10-MAY-2006</p>                           |                                                                                     |
|                                                                                                                                                  | <p>31. Database system and query optimiser</p> <p>Method for optimising a query with respect to a database structure, comprising receiving database information with respect to a specific data source, generating a search database structure for said data source, based on said received data source information, receiving a query request for said data...</p> <p>ASSIGNMENT: SAP AG<br/>WO2002061613A3   WIPO APPLICATIONS   04-SEP-2003</p>                                                       |                                                                                     |
|                                                                                                                                                  | <p>32. Biological data processing</p> <p>A multi-database query system which queries a plurality of databases and servers, including an input which receives queries in a structured form and a translation server which translates at least a part of a received query into commands recognized by a data manipulation server.</p> <p>ASSIGNMENT: GENE LOGIC INC<br/>WO2001091294A3   WIPO APPLICATIONS   23-MAY-2002</p>                                                                               |                                                                                     |

**New Query**

Save Query

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**COLLAPSE MENU**

33. Combining multidimensional expressions and data mining extensions to manage OLAP Discover Map

ASSIGNMENT: MICROSOFT CORP  
AU2005201996A1 | AUSTRALIAN PATENT DOCUMENTS | 12-JAN-2006

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34. Biological data processing

A multi-database query system which queries a plurality of databases and servers, including an input which receives queries in a structured form and a translation server which translates at least a part of a received query into commands recognized by a data manipulation server.

ASSIGNMENT: GENE LOGIC INC  
WO2006106129A2 | WIPO APPLICATIONS | 17-MAY-2006

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35. Data processing method, data query method in database, corresponding device, and data query device

ASSIGNMENT: INTEL BUSINESS MACHINES CORP  
JP2014010828A | JAPANESE APPLICATIONS | 20-JAN-2014

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36. Automatic data explorer that determines relationships among original and derived fields

An automatic data mining tool that characterizes the relationships between different database fields from both structured and unstructured data (figure 1). It extracts a data model, identifies and categorizes all data fields, performs pre-processing to deal with unstructured data effectively, and...

ASSIGNMENT: ROCKWELL SCIENTIFIC CO LLC  
WO2006073468A1 | WIPO APPLICATIONS | 19-SEP-2002

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37. System and architecture for enterprise-scale, parallel data mining

A grid-based approach for enterprise-scale data mining that leverages database technology for I/O parallelism and on-demand compute servers for compute parallelism in the statistical computations is described. By enterprise-scale, we mean the highly-automated use of data mining in vertical business...

ASSIGNMENT: INTEL BUSINESS MACHINES CORP  
US20070174290 | US APPLICATIONS | 26-JUL-2007

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38. Apparatus and method for federated querying of unstructured data

A computer readable medium is configured to receive a query, to map the query to an unstructured data source, to dispatch a request based on the query to the unstructured data source, to aggregate data returned by the unstructured data source in a structured data store, and to issue the query...

ASSIGNMENT: BUSINESS OBJECTS SA  
WO2007098320A3 | WIPO APPLICATIONS | 02-OCT-2008

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39. Two-stage data validation and mapping for database access

Input data queries directed at a plurality of target databases and originating from any of a plurality of sources are first converted to validated canonical forms, which are then used to query the target databases. Specifically, upon receiving an input data query, a relatively accurate reference...

ASSIGNMENT: TELCORDIA TECH INC  
WO2005109186A3 | WIPO APPLICATIONS | 15-NOV-2007

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40. Generation of queries to a data processing system

The invention relates to a method for at the least partially automatic generation of a query to a data processing system (1) having a database (2), wherein the database (2) is based on a data model which can be used for the selection of data from the database (2) with a query language of the data...

ASSIGNMENT: COSER IP AG  
WO2013174467A1 | WIPO APPLICATIONS | 28-NOV-2013

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41. Combining multidimensional expressions and data mining extensions to mine OLAP cubes

ASSIGNMENT: MICROSOFT CORP  
AU2005201996B2 | AUSTRALIAN PATENT DOCUMENTS | 08-JUL-2010

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42. System, method and computer program product for data mining in a normalized relational database

A method and system for preparing a data record with multidimensional attributes for processing by a data-mining tool includes the steps of identifying a normalized data



|                 |                                                                                                                                                                                                                                                                                                                |                                                                                     |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                 | record, which includes an existing attribute comprising a plurality of dimensions, and generating a <del>concept</del> of new attributes...                                                                                                                                                                    |  |
| New Query       | ASSIGNMENT: YEPADATA INC<br>US6691120   US PATENTS   10-FEB-2004                                                                                                                                                                                                                                               |                                                                                     |
| Save Query      | 45. Apparatus and method for maintaining integrated data consistency across multiple databases                                                                                                                                                                                                                 |                                                                                     |
| Export Results  | A database network having a primary database and a plurality of heterogeneous subscribing databases for replicating data updates of the primary database in the heterogeneous subscribing databases includes a database engine connected to the primary database for capturing the data updates in the...      |                                                                                     |
| Quick Downloads | ASSIGNMENT: AT & T<br>CA2232704A1   CANADIAN APPLICATIONS   09-NOV-1998                                                                                                                                                                                                                                        |                                                                                     |
| Recent Items    | 45. Improved method and apparatus for data access in multiprocessor digital data processing systems                                                                                                                                                                                                            |                                                                                     |
| COLLAPSE MENU   | An improved system for database query processing by means of query decomposition intercepts database queries prior to processing by a database management system (DBMS) (Fig. 3A). The system decomposes at least selected queries to generate multiple subqueries for application, in parallel, to the...     |                                                                                     |
|                 | ASSIGNMENT: KENDALL SQUARE RSCH CORP<br>WO1995021407A3   WIPO APPLICATIONS   14-SEP-1995                                                                                                                                                                                                                       |                                                                                     |
|                 | 45. Cross-validation for naive bayes data mining model                                                                                                                                                                                                                                                         |                                                                                     |
|                 | A system, method, and computer program product provides a useful measure of the accuracy of a Naïve Bayes predictive model and reduced computational expense relative to conventional techniques. A method for measuring accuracy of a Naïve Bayes predictive model comprises the steps of receiving a...      |                                                                                     |
|                 | ASSIGNMENT: ORACLE INTL CORP<br>US7295215   US PATENTS   26-NOV-2007                                                                                                                                                                                                                                           |                                                                                     |
|                 | 46. Information access to self-describing data framework                                                                                                                                                                                                                                                       |                                                                                     |
|                 | An overall health strategy system that can change consumer behavior by providing an integrated data platform together with individualized third-party services which leverage the data to supply health-related advice, care and products is provided. An interconnected health-related data network can be... |                                                                                     |
|                 | ASSIGNMENT: MICROSOFT CORP<br>WO2609103967A1   WIPO APPLICATIONS   28-AUG-2008                                                                                                                                                                                                                                 |                                                                                     |
|                 | 47. Double blinded privacy-safe distributed data mining protocol                                                                                                                                                                                                                                               |                                                                                     |
|                 | A Double Blinded Privacy-Safe Distributed Data Mining Protocol is disclosed, among an aggregator, a data consumer entity having privacy-sensitive information, and data source entities having privacy-sensitive information. The aggregator does not have access to the privacy-sensitive information at...   |                                                                                     |
|                 | ASSIGNMENT: CROSBY SOLUTIONS INC<br>AU2009332566A1   AUSTRALIAN PATENT DOCUMENTS   30-JUN-2011                                                                                                                                                                                                                 |                                                                                     |
|                 | 48. Generation of queries to a data processing system                                                                                                                                                                                                                                                          |                                                                                     |
|                 | The invention relates to a method for at the least partially automatic generation of a query to a data processing system (1) having a database (2), wherein the database (2) is based on a data model which can be used for the selection of data from the database (2) with a query language of the data...   |                                                                                     |
|                 | ASSIGNMENT: IQEIP IP AG<br>EP2956344A1   EUROPEAN APPLICATIONS   08-APR-2015                                                                                                                                                                                                                                   |                                                                                     |
|                 | 49. Iterative data analysis process via query result augmentation and result data feedback                                                                                                                                                                                                                     |                                                                                     |
|                 | The present invention is generally directed to a system, method and article of manufacture for accessing data represented abstractly through an abstraction model (512). In one embodiment, a data abstraction model (512) provides a logical view of an underlying data repository (518) that is...           |                                                                                     |
|                 | ASSIGNMENT: INTL BUSINESS MACHINES CORP<br>WO2604111793A3   WIPO APPLICATIONS   13-JUL-2006                                                                                                                                                                                                                    |                                                                                     |
|                 | 50. Managing data queries                                                                                                                                                                                                                                                                                      |                                                                                     |
|                 | In one aspect, in general, a method of generating a dataflow graph (716) representing a database query (702) includes receiving a query plan (714) from a plan generator (746),                                                                                                                                |                                                                                     |

**New Query**

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Save Query

Export Results

Quick Downloads

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the query plan representing operations for executing a database query on at least one input table.

**Merge Join**, **Hash Join**, **Sort Merge Join**

ASSIGNMENT: AE DATA TECH LLC  
WO26121SL149A4 | WMP APPLICATIONS | 08-AUG-2013

Show next: 32 Results

COLLAPSE MENU

**STIC**

Manage Discover Map

New Query

Main Concept Text  
(crawler or spider) ("data mining" or "data mine") o...

Filters  
(1 applied)

Discover

Save Query

Export Results

Quick Downloads

Recent Items

COLLAPSE MENU

Views: 1 - 50 Results

Sort: Relevance

Relevance: 3

0 Selected Documents

ACTIONS

Total Matched: 82

7 Results

VIEW

**Sample**

Relevance

82 Results

Publication Date

1984 2015

Assignment by Relevance

RULE 14 (1)

BRITISH TELECOM PLC (1)

CROSSIX SOLUTIONS LLC (5)

MANTRIA TECH INC (1)

CENTERBOARD (1)

MUXCOM INC (1)

DRYDEN TECH (1)

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1. **Real-time and adaptive data mining**

A method of analyzing data is presented. The method includes generating a query based on a topic of interest, expanding search terms of the query, executing the query on one or more data sources, monitoring a specific data source selected from the one or more data sources. The monitoring is...

ASSIGNMENT: RULE 14  
WO/2014/21018A3 | WIPO APPLICATIONS | 04-JUN-2015

2. **Global database management system integrating heterogeneous data sources**

A database management system is disclosed for solving distributed queries across a range of resources. In known systems, database retrieval from multiple sources suffers from problems of reconciliation of data between resources and resource or data incompatibility. The invention allows full database...

ASSIGNMENT: BRITISH TELECOM PLC  
WO/2009/08029A3 | WIPO APPLICATIONS | 13-MAR-2009

3. **A privacy preserving data-mining protocol**

Privacy Preserving Data-Mining Protocol, between a secure "aggregator" and "sources" having respective access to privacy-sensitive micro-data, the protocol including: the "aggregator" accepting a user query and transmitting a parameter list for that query to the "sources" (often including privacy-...

ASSIGNMENT: CROSSIX SOLUTIONS LLC  
CA/2561551A1 | CANADIAN APPLICATIONS | 13-OCT-2009

4. **A privacy preserving data-mining protocol**

Privacy Preserving Data-Mining Protocol, between a secure "aggregator" and "sources" having respective access to privacy-sensitive micro-data, the protocol including: the "aggregator" accepting a user query and transmitting a parameter list for that query to the "sources" (often including privacy-...

ASSIGNMENT: CROSSIX SOLUTIONS LLC  
CA/2561551C | CANADIAN PATENTS | 29-MAY-2013

5. **A privacy preserving data-mining protocol**

Privacy Preserving Data-Mining Protocol, between a secure "aggregator" and "sources" having respective access to privacy-sensitive micro-data, the protocol including: the "aggregator" accepting a user query and transmitting a parameter list for that query to the "sources" (often including-...

ASSIGNMENT: CROSSIX SOLUTIONS LLC  
WO/2009/034175A3 | WIPO APPLICATIONS | 23-APR-2009

6. **System and method for dynamic data-mining and on-line communication of customized information**

A method and system for dynamically searching databases in response to a query is provided by the present invention. More specifically, a system and method for dynamic data-mining and on-line communication of customized information. This method includes the steps of first creating a search-specific...

ASSIGNMENT: MANTRIA TECH INC  
US/266668 | US PATENTS | 24-JUL-2001

7. **System and methods for highly distributed wide-area data management of a network of data sources through a database interface**

Methods and a system that provide a network of data sources in terms of a traditional database schema, convert traditional database queries into network messages, and route those messages to those data sources which have relevant data, in some instances through designated query nodes. In the present...

ASSIGNMENT: CENTERBOARD



|                                                    | Manage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Discover | Map |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----|
| WO/2006/034768A2   WIPO APPLICATIONS   13-NOV-2005 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |
| New Query                                          | <p>8. A method and system for providing data to a user based on a user's query</p> <p>ASSIGNMENT: MULTEX COM INC<br/>GB2363668B   GREAT BRITAIN PATENTS   29-OCT-2003</p>                                                                                                                                                                                                                                                                                                                                                                                                 |          |     |
| Save Query                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |
| Export Results                                     | <p>9. Method and system for dynamic data-mining and on-line communication of customized information</p> <p>The present invention provides a method and system for dynamically searching databases in response to a query, and more specifically, a system and method for dynamic data-mining and on-line communication of customized information. This method includes the step of first creating a search-specific...</p> <p>ASSIGNMENT: DRYKEN TECH<br/>WO2000/08568A1   WIPO APPLICATIONS   17-FEB-2000</p>                                                            |          |     |
| Quick Downloads                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |
| Recent Items                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |
| COLLAPSE MENU                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |     |
|                                                    | <p>10. Tools for health and wellness</p> <p>A tool for providing health and/or wellness services is described herein. Not necessarily clean or unclear data about a plurality of self-selected or non-selected or unselected subjects is received. The data can be aggregated and mined at least in part by employing a statistical algorithm, a...</p> <p>ASSIGNMENT: MICROSOFT CORP<br/>WO2006/055020A1   WIPO APPLICATIONS   08-MAY-2006</p>                                                                                                                           |          |     |
|                                                    | <p>11. Double blinded privacy-safe distributed data mining protocol</p> <p>A Double Blinded Privacy-Safe Distributed Data Mining Protocol is disclosed, among an aggregator, a data consumer entity having privacy-sensitive information, and data source entities having privacy-sensitive information. The aggregator does not have access to the privacy-sensitive information at...</p> <p>ASSIGNMENT: CROSSIX SOLUTIONS INC<br/>CA2745951A1   CANADIAN APPLICATIONS   01-JUL-2010</p>                                                                                |          |     |
|                                                    | <p>12. Index and query processor for data and information retrieval, integration and sharing from multiple disparate data sources</p> <p>A query server system (figure 2) that processes queries of data and information stored in one or more data sources (130). The query server system includes a query server (100, 120, 121), a query source interface connected to the query server for receiving queries, data and information source (130)...</p> <p>ASSIGNMENT: WHAMTECH INC<br/>WO2004/095428A3   WIPO APPLICATIONS   08-DEC-2005</p>                          |          |     |
|                                                    | <p>13. A privacy preserving data-mining protocol</p> <p>Privacy Preserving Data-Mining Protocol, between a secure 'aggregator' and 'sources' having respective access to privacy-sensitive micro-data, the protocol including: the 'aggregator' accepting a user query and transmitting a parameter list for that query to the 'sources' (often including...</p> <p>ASSIGNMENT: CROSSIX SOLUTIONS LLC<br/>EP1761893A2   EUROPEAN APPLICATIONS   14-MAR-2007</p>                                                                                                           |          |     |
|                                                    | <p>14. Apparatus and method for processing queries against combinations of data sources</p> <p>A computer readable medium includes executable instructions to receive a query based on a semantic abstraction that describes at least one underlying data source. The semantic abstraction includes at least one nested semantic abstraction. The query is analyzed to produce data source specific...</p> <p>ASSIGNMENT: BUSINESS OBJECTS SA<br/>WO2006/027765A3   WIPO APPLICATIONS   18-SEP-2006</p>                                                                   |          |     |
|                                                    | <p>15. System and methods for highly distributed wide-area data management of a network of data sources through a database interface</p> <p>Methods and a system that provide a network of data sources in terms of a traditional database schema, convert traditional database queries into network messages, and route those messages to those data sources which have relevant data, in some instances through designated query nodes. In the present...</p> <p>ASSIGNMENT: SIEMENS TECH TO BUSINESS CTR LLC<br/>WO2002/073470A8   WIPO APPLICATIONS   06-MAR-2003</p> |          |     |
|                                                    | <p>16. System and method for retrieving data from a database system</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |     |



|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| New Query       | <p>A fast and efficient system and method for retrieving data from a database system by a <del>Method</del> <del>Device</del> <del>System</del> is provided, in which the database system accepts and processes data requests in a second query language in response to data queries issued in a first query language by the...</p> <p>ASSIGNMENT: COGNOS INC<br/>CA2365571A1   CANADIAN APPLICATIONS   18-JUN-2003</p>                                                                                                                                             |
| Save Query      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Export Results  | <p>17. Method and device for data query from heterogeneous data sources</p> <p>The present invention discloses a method and device for data query from heterogeneous data sources in order to solve the problem of complexity, time-consuming and inefficiency of the prior art data query from heterogeneous data sources. Said method includes: determining, according to a received data...</p> <p>ASSIGNMENT: ZTE CORP<br/>WO2010145157A1   WIPO APPLICATIONS   23-DEC-2010</p>                                                                                 |
| Quick Downloads |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Recent Items    | <p>18. A privacy preserving data-mining protocol</p> <p>Privacy Preserving Data-Mining Protocol, between a secure 'aggregator' and 'sources' having respective access to privacy-sensitive micro-data, the protocol including: the 'aggregator' accepting a user query and transmitting a parameter list for that query to the 'sources' (often including...</p> <p>ASSIGNMENT: CROSSIX SOLUTIONS LLC<br/>WO2009094175A2   WIPO APPLICATIONS   13-OCT-2005</p>                                                                                                      |
| COLLAPSE MENU   | <p>19. Platform independent plug-in methods and systems for data mining and analytics</p> <p>The present invention comprises methods, system, and apparatuses for generating and delivering analytic results for any simple or highly complex problem for which data exists that software or similar automated means can analyze. The present invention thus contemplates methods, systems, apparatuses,...</p> <p>ASSIGNMENT: BRUCKHAUS, TILMANN [+1]<br/>US8417715   US PATENTS   09-APR-2013</p>                                                                 |
|                 | <p>20. Tools for health and wellness</p> <p>A tool for providing health and/or wellness services is described herein. Not necessarily clean or unclear data about a plurality of self-selected or non-selected or unselected subjects is received. The data can be aggregated and mined at least in part by employing a statistical algorithm, a...</p> <p>ASSIGNMENT: MICROSOFT TECH LICENSING LLC<br/>US7647285   US PATENTS   12-JAN-2010</p>                                                                                                                    |
|                 | <p>21. System and methods for highly distributed wide-area data management of a network of data sources through a database interface</p> <p>Methods and a system that provide a network of data sources in terms of a traditional database schema, convert traditional database queries into network messages, and route those messages to those data sources which have relevant data. In the present invention, the network interface of the data...</p> <p>ASSIGNMENT: SIEMENS TECH TO BUSINESS CTP LLC<br/>WO2001040973A3   WIPO APPLICATIONS   22-AUG-2002</p> |
|                 | <p>22. Method and system for dynamic data-mining and on-line communication of customized information</p> <p>A method and system for dynamically searching databases in response to a query is provided by the present invention. More specifically, a system and method for dynamic data-mining and on-line communication of customized information. This method includes the steps of first creating a search-specific...</p> <p>ASSIGNMENT: VANDERVELDT INGRID V. [+1]<br/>US20020049704   US APPLICATIONS   25-APR-2002</p>                                      |
|                 | <p>23. Integrated database and data-mining system</p> <p>A method and apparatus for mining data relationships from an integrated database and data-mining system are disclosed. A set of frequent 1-itemsets is generated using a group-by query on data transactions. From these frequent 1-itemsets and the transactions, frequent 2-itemsets are determined. A...</p> <p>ASSIGNMENT: INTEL BUSINESS MACHINES CORP<br/>US6324533   US PATENTS   27-NOV-2001</p>                                                                                                   |
|                 | <p>24. Tools for health and wellness</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <div>New Query</div> <div>Save Query</div> <div>Export Results</div> <div>Quick Downloads</div> <div>Recent Items</div> <div>COLLAPSE MENU</div> | <p>A test for providing health and/or wellness services is described herein. Not necessarily</p> <p>Method or device for determining about a plurality of self-selected or non-selected or unselected subjects is received. The data can be aggregated and mined at least in part by employing a statistical algorithm, a...</p> <p>ASSIGNMENT: MICROSOFT TECH LICENSING LLC<br/>US20070112598   US APPLICATIONS   17-MAY-2007</p>                                                                       |  |
|                                                                                                                                                  | <p>25. Retrieval of data from a stored database</p> <p>ASSIGNMENT: COMPUTER RESOURCES RSCH LT<br/>GB2248951B   GREAT BRITAIN PATENTS   06-APR-1994</p>                                                                                                                                                                                                                                                                                                                                                   |                                                                                     |
|                                                                                                                                                  | <p>26. Double blinded privacy-safe distributed data mining protocol</p> <p>A Double Blinded Privacy-Safe Distributed Data Mining Protocol is disclosed, among an aggregator, a data consumer entity having privacy-sensitive information, and data source entities having privacy-sensitive information. The aggregator does not have access to the privacy-sensitive information at...</p> <p>ASSIGNMENT: CROSEK SOLUTIONS INC<br/>WO2010073214A2   WIPO APPLICATIONS   01-JUL-2010</p>                 |                                                                                     |
|                                                                                                                                                  | <p>27. Querying data and an associated ontology in a database management system</p> <p>A method, apparatus, and computer program for querying data and an associated ontology in a database (304). An ontology is associated with data in database (304). Responsive to receiving a query (2702) from a requestor (1002), relational data in the database (304) is identified using the query...</p> <p>ASSIGNMENT: IPTV BUSINESS MACHINES CORP<br/>WO2009088721A3   WIPO APPLICATIONS   26-NOV-2008</p> |                                                                                     |
|                                                                                                                                                  | <p>28. Privacy preserving data-mining protocol</p> <p>Privacy Preserving Data-Mining Protocol, between a secure "aggregator" and "sources" having respective access to privacy-sensitive micro-data, the protocol including: the "aggregator" accepting a user query and transmitting a parameter list for that query to the "sources" (often including...</p> <p>ASSIGNMENT: CROSEK SOLUTIONS INC<br/>US7823207   US PATENTS   26-OCT-2010</p>                                                          |                                                                                     |
|                                                                                                                                                  | <p>29. Distributed database systems and methods</p> <p>Systems and methods for distributed database management are disclosed. In an embodiment, a method of accessing information in a distributed database system having one or more data servers includes establishing a plurality of lattice structures configured to store data elements having inter-related...</p> <p>ASSIGNMENT: BOEING CO<br/>WO2007089264A3   WIPO APPLICATIONS   15-NOV-2007</p>                                               |                                                                                     |
|                                                                                                                                                  | <p>30. Indexing databases for efficient relational querying</p> <p>A computer system for indexing databases for efficient relational querying. A set of index files is created to index an entire set of structured or semi-structured source data. The source data is tokenized. During the tokenization of the source data the source data is manipulated in accordance with...</p> <p>ASSIGNMENT: KIBIT TECH CORP<br/>CA2253744A1   CANADIAN APPLICATIONS   10-MAY-2006</p>                           |                                                                                     |
|                                                                                                                                                  | <p>31. Database system and query optimiser</p> <p>Method for optimising a query with respect to a database structure, comprising receiving database information with respect to a specific data source, generating a search database structure for said data source, based on said received data source information, receiving a query request for said data...</p> <p>ASSIGNMENT: SAP AG<br/>WO2002061613A3   WIPO APPLICATIONS   04-SEP-2003</p>                                                       |                                                                                     |
|                                                                                                                                                  | <p>32. Biological data processing</p> <p>A multi-database query system which queries a plurality of databases and servers, including an input which receives queries in a structured form and a translation server which translates at least a part of a received query into commands recognized by a data manipulation server.</p> <p>ASSIGNMENT: GENE LOGIC INC<br/>WO2001091294A3   WIPO APPLICATIONS   23-MAY-2002</p>                                                                               |                                                                                     |

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| New Query       | <p>33. Combining multidimensional expressions and data mining extensions to manage OLAP Discover Map</p> <p>ASSIGNMENT: MICROSOFT CORP<br/>AU2005201996A1   AUSTRALIAN PATENT DOCUMENTS   12-JAN-2006</p>                                                                                                                                                                                                                                                                                                                 |
| Save Query      | <p>34. Biological data processing</p> <p>A multi-database query system which queries a plurality of databases and servers, including an input which receives queries in a structured form and a translation server which translates at least a part of a received query into commands recognized by a data manipulation server.</p> <p>ASSIGNMENT: GENE LOGIC INC<br/>WO2006106129A2   WIPO APPLICATIONS   17-MAY-2006</p>                                                                                                |
| Export Results  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Quick Downloads |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Recent Items    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| COLLAPSE MENU   | <p>35. Data processing method, data query method in database, corresponding device, and data query device</p> <p>ASSIGNMENT: INTEL BUSINESS MACHINES CORP<br/>JP2014010828A   JAPANESE APPLICATIONS   20-JAN-2014</p>                                                                                                                                                                                                                                                                                                     |
|                 | <p>36. Automatic data explorer that determines relationships among original and derived fields</p> <p>An automatic data mining tool that characterizes the relationships between different database fields from both structured and unstructured data (figure 1). It extracts a data model, identifies and categorizes all data fields, performs pre-processing to deal with unstructured data effectively, and...</p> <p>ASSIGNMENT: ROCKWELL SCIENTIFIC CO LLC<br/>WO2006073468A1   WIPO APPLICATIONS   19-SEP-2006</p> |
|                 | <p>37. System and architecture for enterprise-scale, parallel data mining</p> <p>A grid-based approach for enterprise-scale data mining that leverages database technology for I/O parallelism and on-demand compute servers for compute parallelism in the statistical computations is described. By enterprise-scale, we mean the highly-automated use of data mining in vertical business...</p> <p>ASSIGNMENT: INTEL BUSINESS MACHINES CORP<br/>US20070174290   US APPLICATIONS   26-JUL-2007</p>                     |
|                 | <p>38. Apparatus and method for federated querying of unstructured data</p> <p>A computer readable medium is configured to receive a query, to map the query to an unstructured data source, to dispatch a request based on the query to the unstructured data source, to aggregate data returned by the unstructured data source in a structured data store, and to issue the query...</p> <p>ASSIGNMENT: BUSINESS OBJECTS SA<br/>WO2007098320A3   WIPO APPLICATIONS   02-OCT-2008</p>                                   |
|                 | <p>39. Two-stage data validation and mapping for database access</p> <p>Input data queries directed at a plurality of target databases and originating from any of a plurality of sources are first converted to validated canonical forms, which are then used to query the target databases. Specifically, upon receiving an input data query, a relatively accurate reference...</p> <p>ASSIGNMENT: TELCORDIA TECH INC<br/>WO2005109186A3   WIPO APPLICATIONS   15-NOV-2007</p>                                        |
|                 | <p>40. Generation of queries to a data processing system</p> <p>The invention relates to a method for at the least partially automatic generation of a query to a data processing system (1) having a database (2), wherein the database (2) is based on a data model which can be used for the selection of data from the database (2) with a query language of the data...</p> <p>ASSIGNMENT: COSER IP AG<br/>WO2013174467A1   WIPO APPLICATIONS   28-NOV-2013</p>                                                      |
|                 | <p>41. Combining multidimensional expressions and data mining extensions to mine OLAP cubes</p> <p>ASSIGNMENT: MICROSOFT CORP<br/>AU2005201996B2   AUSTRALIAN PATENT DOCUMENTS   08-JUL-2010</p>                                                                                                                                                                                                                                                                                                                          |
|                 | <p>42. System, method and computer program product for data mining in a normalized relational database</p> <p>A method and system for preparing a data record with multidimensional attributes for processing by a data-mining tool includes the steps of identifying a normalized data</p>                                                                                                                                                                                                                               |



|                 |                                                                                                                                                                                                                                                                                                                |                                                                                     |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                 | record, which includes an existing attribute comprising a plurality of dimensions, and<br>generating a <del>concept</del> of new attributes...                                                                                                                                                                 |  |
| New Query       | ASSIGNMENT: YEPADATA INC<br>US6691120   US PATENTS   10-FEB-2004                                                                                                                                                                                                                                               |                                                                                     |
| Save Query      | 45. Apparatus and method for maintaining integrated data consistency across multiple databases                                                                                                                                                                                                                 |                                                                                     |
| Export Results  | A database network having a primary database and a plurality of heterogeneous subscribing databases for replicating data updates of the primary database in the heterogeneous subscribing databases includes a database engine connected to the primary database for capturing the data updates in the...      |                                                                                     |
| Quick Downloads | ASSIGNMENT: AT & T<br>CA2232704A1   CANADIAN APPLICATIONS   09-NOV-1998                                                                                                                                                                                                                                        |                                                                                     |
| Recent Items    | 45. Improved method and apparatus for data access in multiprocessor digital data processing systems                                                                                                                                                                                                            |                                                                                     |
| COLLAPSE MENU   | An improved system for database query processing by means of query decomposition intercepts database queries prior to processing by a database management system (DBMS) (Fig. 3A). The system decomposes at least selected queries to generate multiple subqueries for application, in parallel, to the...     |                                                                                     |
|                 | ASSIGNMENT: KENDALL SQUARE RSCH CORP<br>WO1995021407A3   WIPO APPLICATIONS   14-SEP-1995                                                                                                                                                                                                                       |                                                                                     |
|                 | 45. Cross-validation for naive bayes data mining model                                                                                                                                                                                                                                                         |                                                                                     |
|                 | A system, method, and computer program product provides a useful measure of the accuracy of a Naïve Bayes predictive model and reduced computational expense relative to conventional techniques. A method for measuring accuracy of a Naïve Bayes predictive model comprises the steps of receiving a...      |                                                                                     |
|                 | ASSIGNMENT: ORACLE INTL CORP<br>US7295215   US PATENTS   26-NOV-2007                                                                                                                                                                                                                                           |                                                                                     |
|                 | 46. Information access to self-describing data framework                                                                                                                                                                                                                                                       |                                                                                     |
|                 | An overall health strategy system that can change consumer behavior by providing an integrated data platform together with individualized third-party services which leverage the data to supply health-related advice, care and products is provided. An interconnected health-related data network can be... |                                                                                     |
|                 | ASSIGNMENT: MICROSOFT CORP<br>WO2609103967A1   WIPO APPLICATIONS   28-AUG-2008                                                                                                                                                                                                                                 |                                                                                     |
|                 | 47. Double blinded privacy-safe distributed data mining protocol                                                                                                                                                                                                                                               |                                                                                     |
|                 | A Double Blinded Privacy-Safe Distributed Data Mining Protocol is disclosed, among an aggregator, a data consumer entity having privacy-sensitive information, and data source entities having privacy-sensitive information. The aggregator does not have access to the privacy-sensitive information at...   |                                                                                     |
|                 | ASSIGNMENT: CROSBY SOLUTIONS INC<br>AU2009332566A1   AUSTRALIAN PATENT DOCUMENTS   30-JUN-2011                                                                                                                                                                                                                 |                                                                                     |
|                 | 48. Generation of queries to a data processing system                                                                                                                                                                                                                                                          |                                                                                     |
|                 | The invention relates to a method for at the least partially automatic generation of a query to a data processing system (1) having a database (2), wherein the database (2) is based on a data model which can be used for the selection of data from the database (2) with a query language of the data...   |                                                                                     |
|                 | ASSIGNMENT: IQEIP IP AG<br>EP2956344A1   EUROPEAN APPLICATIONS   08-APR-2015                                                                                                                                                                                                                                   |                                                                                     |
|                 | 49. Iterative data analysis process via query result augmentation and result data feedback                                                                                                                                                                                                                     |                                                                                     |
|                 | The present invention is generally directed to a system, method and article of manufacture for accessing data represented abstractly through an abstraction model (512). In one embodiment, a data abstraction model (512) provides a logical view of an underlying data repository (518) that is...           |                                                                                     |
|                 | ASSIGNMENT: INTL BUSINESS MACHINES CORP<br>WO2604111793A3   WIPO APPLICATIONS   13-JUL-2006                                                                                                                                                                                                                    |                                                                                     |
|                 | 50. Managing data queries                                                                                                                                                                                                                                                                                      |                                                                                     |
|                 | In one aspect, in general, a method of generating a dataflow graph (716) representing a database query (702) includes receiving a query plan (714) from a plan generator (746),                                                                                                                                |                                                                                     |

New Query

Save Query

Export Results

Quick Downloads

Recent Items

COLLAPSE MENU

the query plan representing operations for executing a database query on at least one  
Manager 734a, ~~Discovering~~ ~~Non~~  
ASSIGNMENT: AI INTELIGI TECH LLC  
WO2012151149A4 | WIPO APPLICATIONS | 08-AUG-2013



Show next: 32 Results

Manage

Discover

Map

New Query

Main Concept Text  
(crawler or spider) "data mining"...

1 modifier

Filters  
(1 applied)

Filter

Discover

Save Query

Views:

Sort: Relevance

Relevance: 3

0 Selected Documents

ACTIONS

Export Results

1 - 13 Results

Total Matched: 13

15 Results

VIEW

Quick Downloads

1. Real-time and adaptive data mining

A method of analyzing data is presented. The method includes generating a query based on a topic of interest, expanding search terms of the query, executing the query on one or more data sources, monitoring a specific data source selected from the one or more data sources. The monitoring is...

ASSIGNMENT: RULE 14  
US20140040301 | US APPLICATIONS | 06-FEB-2014

2. Universal database - cDB

Cloud database is a single integrated universal database for enterprises, which provides a single database for online analytical processing (OLAP) and online transaction processing (OLTP) capabilities on the same database which stores real data. Cloud Database (cDB) can use any column oriented...

ASSIGNMENT: SINGH, AMARJIT [+1]  
US20120016835 | US APPLICATIONS | 19-JAN-2012

3. Method and system for dynamic data-mining and on-line communication of customized information

A method and system for dynamically searching databases in response to a query is provided by the present invention. More specifically, a system and method for dynamic data-mining and on-line communication of customized information. This method includes the steps of first creating a search-specific...

ASSIGNMENT: VAN DERVELDT INGRID V. [+1]  
US200920049704 | US APPLICATIONS | 25-APR-2002

4. System and method for dynamic data-mining and on-line communication of customized information

A method and system for dynamically searching databases in response to a query is provided by the present invention. More specifically, a system and method for dynamic data-mining and on-line communication of customized information. This method includes the steps of first creating a search-specific...

ASSIGNMENT: MANTRIA TECH INC  
US6296668 | US PATENTS | 24-JUL-2001

5. A method and system for providing data to a user based on a user's query

ASSIGNMENT: MULTEX COM INC  
GB2369680B | GREAT BRITAIN PATENTS | 29-OCT-2003

6. Combining multidimensional expressions and data mining extensions to mine OLAP cubes

A language schema that integrates multidimensional extensions (e.g., MDX) and data mining extensions (e.g., DMX) for performing data mining operations on data residing in OLAP cubes. The schema provides that the <source-data-query> can not only be a relational query, rather a multidimensional query...

ASSIGNMENT: MICROSOFT TECH LICENSING LLC  
US20050283459 | US APPLICATIONS | 22-DEC-2005

7. Tools for health and wellness

A tool for providing health and/or wellness services is described herein. Not necessarily clean or unclear data about a plurality of self-selected or non-selected or unselected subjects is received. The data can be aggregated and mined at least in part by employing a statistical algorithm, a...

ASSIGNMENT: MICROSOFT TECH LICENSING LLC  
US20070112598 | US APPLICATIONS | 17-MAY-2007

8. Data query method employing an implication model and business dictionary

Sample

TOP 13 RESULTS

Relevance

Full View

0 Results

0 Results

13 Results

Publication Date

Full View

2001

2014

Assignment by Relevance

Full View

RULE 14 (1)

SINGH, AMARJIT (1)

VAN DERVELDT INGRID V. (1)

MANTRIA TECH INC (1)

MULTEX COM INC (1)

MICROSOFT TECH LICENSING LLC (4)

LOCAN PROPERTIES LLC (1)

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|                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <div>New Query</div> <div>Save Query</div> <div>Export Results</div> <div>Quick Downloads</div> <div>Recent Items</div> | <div>A data query method employing an implication model and business dictionary having</div> <div>Measures, Dimensions, and Hierarchies, and a common universal title of data fields and</div> <div>implication logic between the data fields, and with which endows business terms with</div> <div>systemized organization thereof, thereby...</div> <div>ASSIGNMENT: LOCAN PROPERTIES LLC</div> <div>US20950256831   US APPLICATIONS   17-NOV-2005</div>                                                                                                               |  |
|                                                                                                                         | <div>9. Integrated database and data-mining system</div> <div>A method and apparatus for mining data relationships from an integrated database and</div> <div>data-mining system are disclosed. A set of frequent 1-itemsets is generated using a</div> <div>group-by query on data transactions. From these frequent 1-itemsets and the</div> <div>transactions, frequent 2-itemsets are determined. A...</div> <div>ASSIGNMENT: INTEL BUSINESS MACHINES CORP</div> <div>US6924533   US PATENTS   27-NOV-2001</div>                                                     |                                                                                     |
|                                                                                                                         | <div>10. Combining multidimensional expressions and data mining extensions to mine OLAP cubes</div> <div>A language schema that integrates multidimensional extensions (e.g., MDX) and data</div> <div>mining extensions (e.g., DMX) for performing data mining operations on data residing in</div> <div>OLAP cubes. The schema provides that the &lt;source-data-query&gt; can not only be a</div> <div>relational query, rather a multidimensional query...</div> <div>ASSIGNMENT: MICROSOFT TECH LICENSING LLC</div> <div>US7627355   US PATENTS   01-DEC-2009</div> |                                                                                     |
|                                                                                                                         | <div>11. Tools for health and wellness</div> <div>A tool for providing health and/or wellness services is described herein. Not necessarily</div> <div>clean or unclean data about a plurality of self-selected or non-selected or unselected</div> <div>subjects is received. The data can be aggregated and mined at least in part by employing</div> <div>a statistical algorithm, a...</div> <div>ASSIGNMENT: MICROSOFT TECH LICENSING LLC</div> <div>US7647285   US PATENTS   12-JAN-2010</div>                                                                     |                                                                                     |
| <div>COLLAPSE MENU</div>                                                                                                | <div>12. System and architecture for enterprise-scale, parallel data mining</div> <div>A grid-based approach for enterprise-scale data mining that leverages database</div> <div>technology for I/O parallelism and on-demand compute servers for compute parallelism</div> <div>in the statistical computations is described. By enterprise-scale, we mean the highly-</div> <div>automated use of data mining in vertical business...</div> <div>ASSIGNMENT: INTEL BUSINESS MACHINES CORP</div> <div>US20070174290   US APPLICATIONS   26-JUL-2007</div>               |                                                                                     |
|                                                                                                                         | <div>13. Dynamic data mining process</div> <div>The invention "Dynamic Data Mining Process" provides a systematic, controlled and</div> <div>rational means to increase the number of valid relationships found within collections of</div> <div>data by focusing on the data most likely to be sound, and selectively using the remaining</div> <div>data to increase the likelihood that...</div> <div>ASSIGNMENT: RUSSELL LUCIAN</div> <div>US20030182284   US APPLICATIONS   25-SEP-2003</div>                                                                       |                                                                                     |

ManageDiscoverMap

New Query

Main Concept Text  
(crawler or spider) ("data mining"...

1 modifier

FilterDiscover

Save Query

Views:Sort:RelevanceRelevance:30 Selected DocumentsACTIONS

Export Results1 - 15 ResultsTotal Matched: 1513 ResultsVIEW

Quick Downloads

Recent Items

COLLAPSE MENU

1. Use domain knowledge to Improve data mining performance of very large data-sets via clustering

Presented are methods using domain knowledge, particularly in the medical domain, to reduce the dataset size for further data-mining analysis.  
IPCOM00129866D | THE IP.COM JOURNAL | 07-OCT-2005

2. System and method for querying massive datasets using data object synopses

Disclosed is a system and method for query and retrieval of data objects in massive datasets using data object synopses. Since each synopsis is typically much smaller than the data object it represents, the set of synopses for all data objects can fit into the main memory of a single machine,...  
IPCOM00138565D | THE IP.COM JOURNAL | 25-JUL-2006

3. Retrieving Unicode Data From Databases Using Brio Query

A program is disclosed that a common solution for business intelligence (BI) tools and/or systems that require to work on multiple platforms using data stored in Unicode databases in different languages (ex : Kanji, Mandarin etc). This is a unique solution to use codepages automatically to map...  
IPCOM00125967D | THE IP.COM JOURNAL | 26-JUN-2005

4. Method for migrating query languages between 2 systems using an abstract, data repository agnostic representation.

This article discusses how to define a neutral representation of a data query, independent from the type of data repository against which the query will be executed against. The fundamental architecture point is to separate the query definition from the environment it will execute on, with the goal...  
IPCOM00154309D | THE IP.COM JOURNAL | 27-JUN-2007

5. Use of Rule Defined Query Partitions to Manipulate On Demand Data Access

This invention provides a method for retrieving database information via a set of configurable documents containing database query statements. This allows for easier application maintenance when source data is either unknown or volatile during the design phase of the application.  
IPCOM00145733D | THE IP.COM JOURNAL | 24-JAN-2007

6. Intelligent Miner

Disclosed is a method of an Intelligent Miner architecture and a brief description of the individual components.  
IPCOM00118456D | IBM TECHNICAL DISCLOSURE BULLETIN | 01-FEB-1997

7. Query Processing with Composite Data Sketches

Disclosed are a method and system for query optimization on time-series data. For indexing time-series data, the method and system use multiple data representations to provide a trade-off between errors in the query results vs. the response time of the query (accuracy vs. response time).  
IPCOM00238120D | THE IP.COM JOURNAL | 07-APR-2014

8. Web Enabled SPARQL and SQL Query Generation Based on Common JSON Model

Disclosed is a query generation model, based on the JavaScript Object Notation (JSON) model, which supports visual creation of a query for enterprise data. This allows users to seamlessly switch between data sources, without having to know the complex query languages.  
IPCOM00239563D | THE IP.COM JOURNAL | 24-NOV-2014

SampleTOP 15 RESULTS

RelevanceFULL VIEW0 Results0 Results15 Results

Publication DateFULL VIEW

Assignment by RelevanceFULL VIEW

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IPCOM00129866D | THE IP.COM JOURNAL | 07-OCT-2005

|                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data Mining, Geomatics and Geoinformatics<br>PMC1184857   PUBMED CENTRAL   01-JAN-2015 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| New Query                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Save Query                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Export Results                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Quick Downloads                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Recent Items                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| COLLAPSE MENU                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 10                                                                                     | <p><b>A system and method for NL interactions over heterogeneous data from real time bound systems</b></p> <p>Natural language queries have been in an active research topic since 1960's. But providing real time cognitive insights for end user queries need techniques for optimizing the transformed query by identifying valid rewriting rules of expressions . This also mandates conforming feasibility of support...</p> <p>IPCOM060240410D   THE IP.COM JOURNAL   29-JAN-2015</p> |
| 11                                                                                     | <p><b>Approach for data fetch optimization for busy dashboards.</b></p> <p>This article discusses an approach for data fetch optimization for Busy Dashboards. Using this approach, implementers of busy dashboards can significantly reduce resources for data fetch (like database connections), leading to better performance and faster loading/reloading of widget data.</p> <p>IPCOM060232281D   THE IP.COM JOURNAL   30-OCT-2013</p>                                                 |
| 12                                                                                     | <p><b>A means for generating query strings based on the contents of graphically modelled data.</b></p> <p>This invention describes a means of creating queries to access and retrieve data based upon an existing graphical representation of that data, and a knowledge of the transforms used in mapping the graphical representation to the underlying storage implementation.</p> <p>IPCOM060210655D   THE IP.COM JOURNAL   23-AUG-2011</p>                                             |
| 13                                                                                     | <p><b>Locating previously unknown patterns in data-mining results: a dual data- and knowledge-mining method</b></p> <p>Background Data mining can be utilized to automate analysis of substantial amounts of data produced in many organizations. However, data mining produces large numbers of rules and patterns, many of which are not useful. Existing methods for pruning uninteresting patterns have only begun to automate...</p> <p>PMC1420278   PUBMED CENTRAL   07-MAR-2006</p>  |
| 14                                                                                     | <p><b>A Method and System for Mining Related Products for Search from Email Data</b></p> <p>A method and system is disclosed for enhancing search experience of users by mining co-purchasing patterns from email data such as, but not limited to, purchase receipts. The method and system utilizes the mined information for updating one or more search indices for recommending related products....</p> <p>IPCOM060233849D   THE IP.COM JOURNAL   24-DEC-2013</p>                     |
| 15                                                                                     | <p><b>%GTO-Natural Language Query on Big Data of Service Platform of Connected Devices</b></p> <p>Since data of devices have different schema and properties, data access have to know the storage format/schema in advance. Data analyzer and operator have to use particular interface for each device's data. So Why not use a general interface for all data access roles? Why not make the internal...</p> <p>IPCOM060239289D   THE IP.COM JOURNAL   05-DEC-2013</p>                   |

Manage

Discover

Map

STC

Filter

Discover

New Query

Main Concept Text

(crawler or spider) ("data mining"...

1 modifier

Save Query

Export Results

Quick Downloads

Recent Items

COLLAPSE MENU

Views:

Sort: Relevance

Relevance: 3

0 Selected Documents

ACTIONS

1 - 24 Results

Total Matched: 24

33 Results

VIEW

1. Use domain knowledge to Improve data mining performance of very large data-sets via clustering

Presented are methods using domain knowledge, particularly in the medical domain, to reduce the dataset size for further data-mining analysis.

IPCOM001129066D | THE IP.COM JOURNAL | 07-OCT-2005

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IPCOM001139065D | THE IP.COM JOURNAL | 25-JUL-2006

3. Retrieving Unicode Data From Databases Using Brio Query

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IPCOM001125967D | THE IP.COM JOURNAL | 26-JUN-2005

4. Method for migrating query languages between 2 systems using an abstract, data repository agnostic representation.

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IPCOM000154309D | THE IP.COM JOURNAL | 27-JUN-2007

5. Intelligent Miner

Disclosed is a method of an Intelligent Miner architecture and a brief description of the individual components

IPCOM001118456D | IBM TECHNICAL DISCLOSURE BULLETIN | 01-FEB-1997

6. Use of Rule Defined Query Partitions to Manipulate On Demand Data Access

This invention provides a method for retrieving database information via a set of configurable documents containing database query statements. This allows for easier application maintenance when source data is either unknown or volatile during the design phase of the application.

IPCOM000145733D | THE IP.COM JOURNAL | 24-JAN-2007

7. Query Processing with Composite Data Sketches

Disclosed are a method and system for query optimization on time-series data. For indexing time-series data, the method and system use multiple data representations to provide a trade-off between errors in the query results vs. the response time of the query (accuracy vs. response time).

IPCOM000236120D | THE IP.COM JOURNAL | 07-APR-2014

8. Data Mining in Genomics and Proteomics

PMC1184957 | PUBMED CENTRAL | 01-JAN-2005

9. Web Enabled SPARQL and SQL Query Generation Based on Common JSON Model

Sample

TOP 24 RESULTS

Relevance

Full View

0 Results

0 Results

24 Results

Publication Date

Full View

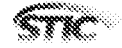
1982

2015

Assignment by Relevance

Full View

View More Visualizations



New Query

Save Query

### Export Results

## Quick Downloads

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COLLAPSE MENU

Disclosed is a query generation model, based on the JavaScript Object Notation (JSON) model, which supports visual creation of a query for enterprise data. This allows users to seamlessly switch between data sources, without having to know the complex query languages.

IPCOM0006239663D | THE IP.COM JOURNAL | 24-NOV-2014

10. Approach for data fetch optimization for busy dashboards.

This article discusses an approach for data fetch optimization for Busy Dashboards. Using this approach, implementers of busy dashboards can significantly reduce resources for data fetch (like database connections), leading to better performance and faster loading/reloading of widget data.

IPCOM000232281D | THE IP.COM JOURNAL | 30-OCT-2013

11. Locating previously unknown patterns in data-mining results: a dual data- and knowledge-mining method

Background Data mining can be utilized to automate analysis of substantial amounts of data produced in many organizations. However, data mining produces large numbers of rules and patterns, many of which are not useful. Existing methods for pruning uninteresting patterns have only begun to automate...

PMCID: PMC1420278 | PUBMED CENTRAL | 07-MAR-2006

12. A system and method for NL interactions over heterogeneous data from real time bound systems

Natural language queries have been in an active research topic since 1960's. But providing real time cognitive insights for end user queries need techniques for optimizing the transformed query by identifying valid rewriting rules of expressions . This also mandates conforming feasibility of support...

IPCOM0002404100 | THE IP.COM JOURNAL | 29-JAN-2015

10 A Method and System for Mining Related Products for Search from  
Email Data

A method and system is disclosed for enhancing search experience of users by mining co-purchasing patterns from email data such as, but not limited to, purchase receipts. The method and system utilizes the mined information for updating one or more search indices for recommending related products....

IPCOM000233849D | THE IP.COM JOURNAL | 24-DEC-2013

14. A means for generating query strings based on the contents of graphically modelled data.

This invention describes a means of creating queries to access and retrieve data based upon an existing graphical representation of that data, and a knowledge of the transforms used in mapping the graphical representation to the underlying storage implementation.

IPCOM00021005SD | THE IP.COM JOURNAL | 23-AUG-2013

15. %GTO-Natural Language Query on Big Data of Service Platform of Connected Devices

Since data of devices have different schema and properties, data access have to know the storage format/schema in advance. Data analyzer and operator have to use particular interface for each device's data. So Why not use a general interface for all data access roles? Why not make the internal...

IPCOM000233289D | THE IP COM JOURNAL | 05-DEC-2013

16. Answering queries using cached data in a key-based data storage environment

Answering Queries using Cached Data in a Key-Based Data Storage Environment  
Traditional query answering always tries to answer queries by using data in database which in a multiter environment requires cached data to be flushed back to database before answering queries . We implement a new strategy...

IPCOM0000150930 | IBM TECHNICAL DISCLOSURE BULLETIN | 03-OCT-2002

17 Method for Dynamically Associating Generated Data into a Flexible Data Abstraction Model

Disclosed is a methodology for dynamically linking external data to an existing data abstraction model in a user-defined manner.

IP.COM000209629D | THE IP.COM JOURNAL | 11-AUG-2013

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|                 |                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <p>18. Method for updating the correct data source in a federated system: Managing a Classifier Map</p> <p>Method for updating the correct data source in a federated system using a classifier.</p> <p>IPCOM001129834D   THE IP.COM JOURNAL   07-OCT-2005</p>                                                                                                                                                               |
| New Query       |                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Save Query      | <p>19. Method of accessing PubMed MEDLINE data from IBM DB2 UDB Using a DiscoveryLink Wrapper</p>                                                                                                                                                                                                                                                                                                                            |
| Export Results  | <p>Introduction: Disclosed is a solution to access and integrate data into RDBMS from web based databases, using a federated system. The solution covers web based databases having the following characteristics. They are accessible via Internet using an URL and have one or more predefined native formats...</p>                                                                                                       |
| Quick Downloads |                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Recent Items    | <p>IPCOM00016146D   IBM TECHNICAL DISCLOSURE BULLETIN   09-NOV-2002</p>                                                                                                                                                                                                                                                                                                                                                      |
|                 | <p>20. Graphics Query System</p> <p>The primary objective of the Graphics Query System (GQS) is to provide the result of a query against a database in the form of a graph (picture) representing the meaning of the data, without user programming. A secondary objective of GQS is to allow for graphic analysis of data. Previously, when...</p> <p>IPCOM000139921D   IBM TECHNICAL DISCLOSURE BULLETIN   01-AUG-1987</p> |
|                 | <p>21. Dynamic Restructure Of Sequential Data Structure Within A NoSQL Database</p> <p>Disclosed are a system and method for dynamic restructure of sequential data structure within a Not Only Structured Query Language (NoSQL) database while the database remains accessible online.</p> <p>IPCOM000238630D   THE IP.COM JOURNAL   09-SEP-2014</p>                                                                       |
|                 | <p>22. Method for Modifying Database Queries</p> <p>This article describes a method for modifying any query defined over a binary relational database. The mechanism gives a user the capability to specify arbitrary query operations without knowledge of a query language.</p> <p>IPCOM00045533D   IBM TECHNICAL DISCLOSURE BULLETIN   01-APR-1983</p>                                                                    |
|                 | <p>23. Method and apparatus for incorporating calculus as a data mining technology</p> <p>Data mining technologies currently work with absolute values. Our idea extends current methods by allowing data to be selected based on the gradient of the data graph at that point, or based on local maxima and minima.</p> <p>IPCOM000280740D   THE IP.COM JOURNAL   27-OCT-2010</p>                                           |
|                 | <p>24. Method for the Gauging of Data From Peers Before Licensing That Data to Researchers</p> <p>Method for the gauging of data from peers before licensing that data to researchers. Specifically, this is a method for data analysis for research statistical quality that does not divulge data contents prior to financial transaction completion.</p> <p>IPCOM000179772D   THE IP.COM JOURNAL   25-FEB-2009</p>        |

Manage

Discover

Map

New Query

Save Query

Export Results

Quick Downloads

Recent Items

COLLAPSE MENU

STC

Filter

Discover

Main Concept Text

(crawler or spider) "data mining"...

1 modifier

Views:

Sort: Relevance

Relevance: 3

0 Selected Documents

ACTIONS

1 - 33 Results

Total Matched: 33

24 Results

VIEW

1. Real-time and adaptive data mining

A method of analyzing data is presented. The method includes generating a query based on a topic of interest, expanding search terms of the query, executing the query on one or more data sources, monitoring a specific data source selected from the one or more data sources. The monitoring is...

ASSIGNMENT: RULE 14  
US20140040301 | US APPLICATIONS | 06-FEB-2014

2. Universal database - cDB

Cloud database is a single integrated universal database for enterprises, which provides a single database for online analytical processing (OLAP) and online transaction processing (OLTP) capabilities on the same database which stores real data. Cloud Database (cDB) can use any column oriented...

ASSIGNMENT: SINGH, AMARJIT [+1]  
US20120016835 | US APPLICATIONS | 19-JAN-2012

3. Method and system for dynamic data-mining and on-line communication of customized information

A method and system for dynamically searching databases in response to a query is provided by the present invention. More specifically, a system and method for dynamic data-mining and on-line communication of customized information. This method includes the steps of first creating a search-specific...

ASSIGNMENT: VAN DERVELDT INGRID V. [+1]  
US200920049704 | US APPLICATIONS | 25-APR-2002

4. System and method for dynamic data-mining and on-line communication of customized information

A method and system for dynamically searching databases in response to a query is provided by the present invention. More specifically, a system and method for dynamic data-mining and on-line communication of customized information. This method includes the steps of first creating a search-specific...

ASSIGNMENT: MANTRIA TECH INC  
US6296668 | US PATENTS | 24-JUL-2001

5. A method and system for providing data to a user based on a user's query

ASSIGNMENT: MULTEX COM INC  
GB2362680B | GREAT BRITAIN PATENTS | 29-OCT-2003

6. Combining multidimensional expressions and data mining extensions to mine OLAP cubes

A language schema that integrates multidimensional extensions (e.g., MDX) and data mining extensions (e.g., DMX) for performing data mining operations on data residing in OLAP cubes. The schema provides that the <source-data-query> can not only be a relational query, rather a multidimensional query...

ASSIGNMENT: MICROSOFT TECH LICENSING LLC  
US20050283459 | US APPLICATIONS | 22-DEC-2005

7. Tools for health and wellness

A tool for providing health and/or wellness services is described herein. Not necessarily clean or unclear data about a plurality of self-selected or non-selected or unselected subjects is received. The data can be aggregated and mined at least in part by employing a statistical algorithm, a...

ASSIGNMENT: MICROSOFT TECH LICENSING LLC  
US20070112598 | US APPLICATIONS | 17-MAY-2007

8. System and architecture for enterprise-scale, parallel data mining

Sample

TOP 33 RESULTS

Relevance

Full View

0 Results

0 Results

33 Results

Publication Date

Full View

2001

2014

Assignment by Relevance

Full View

RULE 14 (1)

SINGH, AMARJIT (1)

VAN DERVELDT INGRID V. (1)

MANTRIA TECH INC (1)

MULTEX COM INC (1)

MICROSOFT TECH LICENSING LLC (6)

INTEL BUSINESS MACHINES... (6)

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### New Query

Save Query

### Export Results

### Quick Downloads

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COLLAPSE DOWN

A grid-based approach for enterprise-scale data mining that leverages database management systems, distributed computing, and on-demand compute servers for compute parallelism in the statistical computations is described. By enterprise-scale, we mean the highly-automated use of data mining in vertical business...

ASSIGNMENT: INTL BUSINESS MACHINES CORP  
US20070174296 | US APPLICATIONS | 26-JUL-2007

### 9. Tools for health and wellness

A tool for providing health and/or wellness services is described herein. Not necessarily clean or unclean data about a plurality of self-selected or non-selected or unselected subjects is received. The data can be aggregated and mined at least in part by employing a statistical algorithm, a...

ASSIGNMENT: MICROSOFT TECH LICENSING LLC  
US7647285 | US PATENTS | 12-JAN-2010

10 Integrated database and data-mining system

A method and apparatus for mining data relationships from an integrated database and data-mining system are disclosed. A set of frequent 1-itemsets is generated using a group-by query on data transactions. From these frequent 1-itemsets and the transactions, frequent 2-itemsets are determined. A...

ASSIGNMENT: INTEL BUSINESS MACHINES CORP  
US6324533 | US PATENTS | 27-NOV-2001

11. Combining multidimensional expressions and data mining extensions to mine OLAP cubes

A language schema that integrates multidimensional extensions (e.g., MDX) and data mining extensions (e.g., DMX) for performing data mining operations on data residing in OLAP cubes. The schema provides that the <source-data-query> can not only be a relational query, rather a multidimensional query...

ASSIGNMENT: MICROSOFT TECH LICENSING LLC  
US7627555 | US PATENTS | 01-DEC-2009

12. Data query method employing an implication model and business dictionary

A data query method employing an implication model and business dictionary having characteristics that embodies employment of a common universal title of data fields and implication logic between the data fields, and with which endows business terms with systemized organization thereof, thereby...

ASSIGNMENT: LOCAN PROPERTIES LLC  
US20050256831 | US APPLICATIONS | 17-NOV-2005

## 13. Method, computer program product, and system for mining data

Data is mined based on empty query results. An empty query result provided in response to a query for data on a shared communications network is detected, and data associated with at least one term within the query is assembled. At least one entity associated with the assembled data is determined.

ASSIGNMENT: INTL BUSINESS MACHINES CORP  
US20080147626 | US APPLICATIONS | 19-JUN-2008

## 14 Privacy preserving data-mining protocol

Privacy Preserving Data-Mining Protocol, between a secure "aggregator" and "sources" having respective access to privacy-sensitive micro-data, the protocol including: the "aggregator" accepting a user query and transmitting a parameter list for that query to the "sources" (often including...

ASSIGNMENT: CROSSIX SOLUTIONS INC  
US7823207 | US PATENTS | 26-OCT-2010

15. Dynamic data mining process

The invention "Dynamic Data Mining Process" provides a systematic, controlled and rational means to increase the number of valid relationships found within collections of data by focusing on the data most likely to be sound, and selectively using the remaining data to increase the likelihood that...

ASSIGNMENT: RUSSELL, LUCIAN  
US20030182284 | US APPLICATIONS | 25-SEP-2003

## 16. Method and device for data query from heterogeneous data sources



### New Query

Save Query

### Export Results

### Quick Downloads

### Recent Items

COLLAPSE NOW

The present invention discloses a method and device for data query from heterogeneous data sources. Disclosed to solve the problem of complexity, time-consuming and inefficiency of the prior art data query from heterogeneous data sources. Said method includes: determining, according to a received data...

ASSIGNMENT: ZTE CORP  
WO2016145157A1 | WIPO APPLICATIONS | 23-DEC-2016

#### 17. Extensible data mining framework

The subject disclosure pertains to extensible data mining systems, means, and methodologies. For example, a data mining system is disclosed that supports plug-in or integration of non-native mining algorithms, perhaps provided by third parties, such that they function the same as built-in...

ASSIGNMENT: MICROSOFT TECH LICENSING LLC  
US7989234 | US PATENTS | 03-JUN-2008

## 18 Database performance mining

A system, method and program product for analyzing performance of a system comprised of a database and its related operating environment. A system is provided that includes: a set of monitoring tools for monitoring event data from a database application and from an operating environment running the...

ASSIGNMENT: INTL BUSINESS MACHINES CORP  
US20090164443 | US APPLICATIONS | 25-JUN-2009

### 19. Double Blinded Privacy-Safe Distributed Data Mining Protocol

A Double Blinded Privacy-Safe Distributed Data Mining Protocol is disclosed, among an aggregator, a data consumer entity having privacy-sensitive information, and data source entities having privacy-sensitive information. The aggregator does not have access to the privacy-sensitive information at...

US20090150362 | US APPLICATIONS | 11-JUN-2009

20 Apparatus and Method for Pipelined Event Processing in a Distributed Environment

A method includes receiving first data from a first data source that continuously generates a first set of records with first common fields. The first data is filtered by selecting a first sub-set of fields of the first common fields to form first filtered data. Second data is received from a second...

ASSIGNMENT: WEBACTION INC  
US20140358982 | US APPLICATIONS | 04-DEC-2014

## 21 System and method for efficient date retrieval and processing

A system and method for efficient data retrieval and processing in an online analytical processing system, a reporting system, a business intelligence system, or a data mining system. The system provides for retrieval and processing of a data result set from a plurality of data sources. The system...

ASSIGNMENT: MICROSTRATEGY INC  
US7430562 | US PATENTS | 30-SEP-2008

22. Apparatus and method for processing queries against combinations of data sources

A computer readable medium includes executable instructions to receive a query based on a semantic abstraction that describes at least one underlying data source. The semantic abstraction includes at least one nested semantic abstraction. The query is analyzed to produce data source specific...

ASSIGNMENT: BUSINESS OBJECTS SA  
WO2008027765A3 | WIPO APPLICATIONS | 18-SEP-2008

23. Index and query processor for data and information retrieval, integration and sharing from multiple disparate data sources

A query server system (figure 2) that processes queries of data and information stored in one or more data sources (130). The query server system includes a query server (100, 120, 121), a query source interface connected to the query server for receiving queries, data and information source (130)...

ASSIGNMENT: WHAMTECH INC  
WO2004095428A3 | WIPO APPLICATIONS | 08-DEC-2005

## 24. SQL-based Naïve Bayes model building and scoring

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| New Query       | <p>The present invention provides an efficient method and system of data mining using SQL queries for machine learning and mining. The invention provides a database management system having a database containing data, a database engine operatively connected to process the data, a SQL server operatively...</p> <p>ASSIGNMENT: ORACLE INTL CORP<br/>US7051027   US PATENTS   23-MAY-2006</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Save Query      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Export Results  | <p>25. Extensible data mining framework</p> <p>The subject disclosure pertains to extensible data mining systems, means, and methodologies. For example, a data mining system is disclosed that supports plug-in or integration of non-native mining algorithms, perhaps provided by third parties, such that they function the same as built-in...</p> <p>ASSIGNMENT: MICROSOFT TECH LICENSING LLC<br/>US20060020620   US APPLICATIONS   26-JAN-2006</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| Recent Items    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| COLLAPSE MENU   | <p>26. System and method for interactive querying and analysis of data</p> <p>This invention provides a system and method for the querying and analysis of data that is displayed on a computer monitor with the aid of a computer. More specifically, the invention provides interactive queries that enable a user to discover and quantify statistical relationships more efficiently...</p> <p>ASSIGNMENT: HAHM, CHARLES WILBUR<br/>US20130031139   US APPLICATIONS   31-JAN-2013</p> <p>27. Privacy Preserving Data-Mining Protocol</p> <p>Privacy Preserving Data-Mining Protocol, between a secure "aggregator" and "sources" having respective access to privacy-sensitive micro-data, the protocol including: the "aggregator" accepting a user query and transmitting a parameter list for that query to the "sources" (often including...</p> <p>ASSIGNMENT: EVENHAIM, ARAF<br/>US20070282796   US APPLICATIONS   06-DEC-2007</p> <p>28. System &amp; method for data mining</p> <p>A system and method for mining data stored in a casino gaming system is provided. A data search for data stored in the casino gaming system is initiated. The casino gaming system comprises one or more than one component connected via a network, and the one or more than one component comprises one or...</p> <p>ASSIGNMENT: BALLY GAMING INC<br/>US20060183552   US APPLICATIONS   17-AUG-2006</p> <p>29. Using object relational extensions for mining association rules</p> <p>A method, apparatus, and article of manufacture for computer-implemented use of object relational extensions for mining association rules. Data mining is performed by a computer to retrieve data from a data store stored on a data storage device coupled to the computer. A multi-column data store...</p> <p>ASSIGNMENT: INTEL BUSINESS MACHINES CORP<br/>US6201575   US PATENTS   09-OCT-2001</p> <p>30. A privacy preserving data-mining protocol</p> <p>Privacy Preserving Data-Mining Protocol, between a secure 'aggregator' and 'sources' having respective access to privacy-sensitive micro-data, the protocol including: the 'aggregator' accepting a user query and transmitting a parameter list for that query to the 'sources' (often including...</p> <p>ASSIGNMENT: CROSSIX SOLUTIONS LLC<br/>WO2005094175A3   WIPO APPLICATIONS   23-APR-2005</p> <p>31. Apparatus and method for federated querying of unstructured data</p> <p>A computer readable medium is configured to receive a query, to map the query to an unstructured data source, to dispatch a request based on the query to the unstructured data source, to aggregate data returned by the unstructured data source in a structured data store, and to issue the query...</p> <p>ASSIGNMENT: BUSINESS OBJECTS SA<br/>WO2007098320A3   WIPO APPLICATIONS   02-OCT-2006</p> <p>32. Data mining method and system</p> <p>A data mining method and system for determining new relevant data from one or more data sources, the data of the data sources comprising pages of data linked together by</p> |





|                 |                                                                                                                                                                                                                                                                                                        |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| New Query       | links is described. The method comprises the steps of visiting the pages of data and obtaining links from the pages thereafter.                                                                                                                                                                        |
| Save Query      | ASSIGNMENT: CARLIVE IMAGES [->]<br>US20020156896   US APPLICATIONS   24-OCT-2002                                                                                                                                                                                                                       |
| Export Results  | 35. Computerized method, system and program product for generating a data mining model                                                                                                                                                                                                                 |
| Quick Downloads | A computerized method, system and program product for generating a data mining model. A user can provide objectives for the model and sample data to train, validate, and test the model. A rules system can automatically select a set of algorithms based on the objectives and/or sample data. A... |
| Recent Items    | ASSIGNMENT: INTEL BUSINESS MACHINES CORP<br>US7743068   US PATENTS   22-JUN-2010                                                                                                                                                                                                                       |
| Collapse Menu   |                                                                                                                                                                                                                                                                                                        |

Manage

Discover

Map



New Query

Main Concept Text  
(crawler or spider) ("data mining"...  
1 modifier

Filters  
(1 applied)

Filter

Discover

Save Query

Views:

Sort: Relevance

Relevance: 3

0 Selected Documents

ACTIONS

Export Results

1 - 32 Results

Total Matched: 32

24 Results

VIEW

Quick Downloads

1. Real-time and adaptive data mining

A method of analyzing data is presented. The method includes generating a query based on a topic of interest, expanding search terms of the query, executing the query on one or more data sources, monitoring a specific data source selected from the one or more data sources. The monitoring is...

ASSIGNMENT: RULE 14  
US20140040301 | US APPLICATIONS | 06-FEB-2014

2. Universal database - cDB

Cloud database is a single integrated universal database for enterprises, which provides a single database for online analytical processing (OLAP) and online transaction processing (OLTP) capabilities on the same database which stores real data. Cloud Database (cDB) can use any column oriented...

ASSIGNMENT: SINGH, AMARJIT [+1]  
US20120016835 | US APPLICATIONS | 19-JAN-2012

3. Method and system for dynamic data-mining and on-line communication of customized information

A method and system for dynamically searching databases in response to a query is provided by the present invention. More specifically, a system and method for dynamic data-mining and on-line communication of customized information. This method includes the steps of first creating a search-specific...

ASSIGNMENT: VAN DERVELDT INGRID V. [+1]  
US200920049704 | US APPLICATIONS | 25-APR-2002

4. System and method for dynamic data-mining and on-line communication of customized information

A method and system for dynamically searching databases in response to a query is provided by the present invention. More specifically, a system and method for dynamic data-mining and on-line communication of customized information. This method includes the steps of first creating a search-specific...

ASSIGNMENT: MANTRIA TECH INC  
US6296668 | US PATENTS | 24-JUL-2001

5. A method and system for providing data to a user based on a user's query

ASSIGNMENT: MULTEX COM INC  
GB2362680B | GREAT BRITAIN PATENTS | 29-OCT-2003

6. Combining multidimensional expressions and data mining extensions to mine OLAP cubes

A language schema that integrates multidimensional extensions (e.g., MDX) and data mining extensions (e.g., DMX) for performing data mining operations on data residing in OLAP cubes. The schema provides that the <source-data-query> can not only be a relational query, rather a multidimensional query...

ASSIGNMENT: MICROSOFT TECH LICENSING LLC  
US20050283459 | US APPLICATIONS | 22-DEC-2005

7. Tools for health and wellness

A tool for providing health and/or wellness services is described herein. Not necessarily clean or unclear data about a plurality of self-selected or non-selected or unselected subjects is received. The data can be aggregated and mined at least in part by employing a statistical algorithm, a...

ASSIGNMENT: MICROSOFT TECH LICENSING LLC  
US20070112598 | US APPLICATIONS | 17-MAY-2007

8. System and architecture for enterprise-scale, parallel data mining

Sample

TOP 32 RESULTS

Relevance

Full View

0 Results

0 Results

32 Results

Publication Date

Full View

2001

2014

Assignment by Relevance

Full View

RULE 14 (1)

SINGH, AMARJIT (1)

VAN DERVELDT INGRID V. (1)

MANTRIA TECH INC (1)

MULTEX COM INC (1)

MICROSOFT TECH LICENSING LLC (6)

INTEL BUSINESS MACHINES... (6)

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### ***Non-Users***

*Long Chen*

### Export Results

### Quick Downloads

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A grid-based approach for enterprise-scale data mining that leverages database management systems for data distribution, multi-tenand compute servers for compute parallelism in the statistical computations is described. By enterprise-scale, we mean the highly-automated use of data mining in vertical business...

ASSIGNMENT: INTL BUSINESS MACHINES CORP  
US20070174290 | US APPLICATIONS | 26-JUL-2007

### 9. Tools for health and wellness

A tool for providing health and/or wellness services is described herein. Not necessarily clean or unclean data about a plurality of self-selected or non-selected or unselected subjects is received. The data can be aggregated and mined at least in part by employing a statistical algorithm, a...

ASSIGNMENT: MICROSOFT TECH LICENSING LLC  
US7647285 | US PATENTS | 12-JAN-2010

10 Integrated database and data-mining system

A method and apparatus for mining data relationships from an integrated database and data-mining system are disclosed. A set of frequent 1-itemsets is generated using a group-by query on data transactions. From these frequent 1-itemsets and the transactions, frequent 2-itemsets are determined. A...

ASSIGNMENT: INTL BUSINESS MACHINES CORP  
US6324593 | US PATENTS | 27-NOV-2001

11. Combining multidimensional expressions and data mining extensions to mine OLAP cubes

A language schema that integrates multidimensional extensions (e.g., MDX) and data mining extensions (e.g., DMX) for performing data mining operations on data residing in OLAP cubes. The schema provides that the <source-data-query> can not only be a relational query, rather a multidimensional query...

ASSIGNMENT: MICROSOFT TECH LICENSING LLC  
US7627555 | US PATENTS | 01-DEC-2009

12. Data query method employing an implication model and business dictionary

A data query method employing an implication model and business dictionary having characteristics that embodies employment of a common universal title of data fields and implication logic between the data fields, and with which endows business terms with systemized organization thereof, thereby...

ASSIGNMENT: LOCAN PROPERTIES LLC  
US20050256831 | US APPLICATIONS | 17-NOV-2005

13. Method, computer program product, and system for mining data

Data is mined based on empty query results. An empty query result provided in response to a query for data on a shared communications network is detected, and data associated with at least one term within the query is assembled. At least one entity associated with the assembled data is determined....

ASSIGNMENT: INTEL BUSINESS MACHINES CORP  
US20030147626 | US APPLICATIONS | 19-JUN-2008

14 Privacy preserving data-mining protocol

Privacy Preserving Data-Mining Protocol, between a secure "aggregator" and "sources" having respective access to privacy-sensitive micro-data, the protocol including: the "aggregator" accepting a user query and transmitting a parameter list for that query to the "sources" (often including...

ASSIGNMENT: CROSSIX SOLUTIONS INC  
US7823207 | US PATENTS | 26-OCT-2010

15. Dynamic data mining process

The invention "Dynamic Data Mining Process" provides a systematic, controlled and rational means to increase the number of valid relationships found within collections of data by focusing on the data most likely to be sound, and selectively using the remaining data to increase the likelihood that...

ASSIGNMENT: RUSSELL, LUCIAN  
US20030182284 | US APPLICATIONS | 25-SEP-2003

16. Method and device for data query from heterogeneous data sources

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| New Query       | <p>The present invention discloses a method and device for data query from heterogeneous data sources. Disclosed to solve the problem of complexity, time-consuming and inefficiency of the prior art data query from heterogeneous data sources. Said method includes: determining, according to a received data...</p> <p>ASSIGNMENT: ZTE CORP<br/>WO2019145157A1   WIPO APPLICATIONS   23-DEC-2019</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| Export Results  | <p>17. Extensible data mining framework</p> <p>The subject disclosure pertains to extensible data mining systems, means, and methodologies. For example, a data mining system is disclosed that supports plug-in or integration of non-native mining algorithms, perhaps provided by third parties, such that they function the same as built-in...</p> <p>ASSIGNMENT: MICROSOFT TECH LICENSING LLC<br/>US7388234   US PATENTS   03-JUN-2008</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| COLLAPSE MENU   | <p>18. Database performance mining</p> <p>A system, method and program product for analyzing performance of a system comprised of a database and its related operating environment. A system is provided that includes: a set of monitoring tools for monitoring event data from a database application and from an operating environment running the...</p> <p>ASSIGNMENT: INTEL BUSINESS MACHINES CORP<br/>US20090164443   US APPLICATIONS   25-JUN-2009</p> <p>19. Double Blinded Privacy-Safe Distributed Data Mining Protocol</p> <p>A Double Blinded Privacy-Safe Distributed Data Mining Protocol is disclosed, among an aggregator, a data consumer entity having privacy-sensitive information, and data source entities having privacy-sensitive information. The aggregator does not have access to the privacy-sensitive information at...</p> <p>ASSIGNMENT: EFAS<br/>US20090150362   US APPLICATIONS   11-JUN-2009</p> <p>20. System and method for efficient date retrieval and processing</p> <p>A system and method for efficient data retrieval and processing in an online analytical processing system, a reporting system, a business intelligence system, or a data mining system. The system provides for retrieval and processing of a data result set from a plurality of data sources. The system...</p> <p>ASSIGNMENT: MICROSTRATEGY INC<br/>US7430562   US PATENTS   30-SEP-2008</p> <p>21. Apparatus and method for processing queries against combinations of data sources</p> <p>A computer readable medium includes executable instructions to receive a query based on a semantic abstraction that describes at least one underlying data source. The semantic abstraction includes at least one nested semantic abstraction. The query is analyzed to produce data source specific...</p> <p>ASSIGNMENT: BUSINESS OBJECTS SA<br/>WO2008027765A3   WIPO APPLICATIONS   18-SEP-2008</p> <p>22. Index and query processor for data and information retrieval, integration and sharing from multiple disparate data sources</p> <p>A query server system (figure 2) that processes queries of data and information stored in one or more data sources (130). The query server system includes a query server (100, 120, 121), a query source interface connected to the query server for receiving queries, data and information source (130)...</p> <p>ASSIGNMENT: WHAMTECH INC<br/>WO2004095428A3   WIPO APPLICATIONS   08-DEC-2005</p> <p>23. SQL-based Naïve Bayes model building and scoring</p> <p>The present invention provides an efficient method and system of data mining using SQL queries for model building and scoring. The invention provides a database management system having a database containing data, a database engine operatively connected to process the data, a SQL server operatively...</p> <p>ASSIGNMENT: ORACLE INTL CORP<br/>US7051037   US PATENTS   23-MAY-2006</p> <p>24. Extensible data mining framework</p> |



|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| New Query       | <p>The subject disclosure pertains to extensible data mining systems, means, and methods. For example, a data-mining system is disclosed that supports plug-in or integration of non-native mining algorithms, perhaps provided by third parties, such that they function the same as built-in...</p> <p>ASSIGNMENT: MICROSOFT TECH LICENSING LLC<br/>US20060020620   US APPLICATIONS   26-JAN-2006</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| Export Results  | <p>25. System and method for interactive querying and analysis of data</p> <p>This invention provides a system and method for the querying and analysis of data that is displayed on a computer monitor with the aid of a computer. More specifically, the invention provides interactive queries that enable a user to discover and quantify statistical relationships more efficiently...</p> <p>ASSIGNMENT: HAHM, CHARLES WILBUR<br/>US20130031130   US APPLICATIONS   31-JAN-2013</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| COLLAPSE MENU   | <p>26. Privacy Preserving Data-Mining Protocol</p> <p>Privacy Preserving Data-Mining Protocol, between a secure "aggregator" and "sources" having respective access to privacy-sensitive micro-data, the protocol including: the "aggregator" accepting a user query and transmitting a parameter list for that query to the "sources" (often including...</p> <p>ASSIGNMENT: EVENHABM, ASAF<br/>US20070282796   US APPLICATIONS   06-DEC-2007</p> <p>27. System &amp; method for data mining</p> <p>A system and method for mining data stored in a casino gaming system is provided. A data search for data stored in the casino gaming system is initiated. The casino gaming system comprises one or more than one component connected via a network, and the one or more than one component comprises one or...</p> <p>ASSIGNMENT: BALLY GAMING INC<br/>US20060183552   US APPLICATIONS   17-AUG-2006</p> <p>28. Using object relational extensions for mining association rules</p> <p>A method, apparatus, and article of manufacture for computer-implemented use of object relational extensions for mining association rules. Data mining is performed by a computer to retrieve data from a data store stored on a data storage device coupled to the computer. A multi-column data store...</p> <p>ASSIGNMENT: INTEL BUSINESS MACHINES CORP<br/>US6301575   US PATENTS   09-OCT-2001</p> <p>29. A privacy preserving data-mining protocol</p> <p>Privacy Preserving Data-Mining Protocol, between a secure 'aggregator' and 'sources' having respective access to privacy-sensitive micro-data, the protocol including: the 'aggregator' accepting a user query and transmitting a parameter list for that query to the 'sources' (often including...</p> <p>ASSIGNMENT: CROSEY SOLUTIONS LLC<br/>WO2005094175A3   WIPO APPLICATIONS   23-APR-2009</p> <p>30. Apparatus and method for federated querying of unstructured data</p> <p>A computer readable medium is configured to receive a query, to map the query to an unstructured data source, to dispatch a request based on the query to the unstructured data source, to aggregate data returned by the unstructured data source in a structured data store, and to issue the query...</p> <p>ASSIGNMENT: BUSINESS OBJECTS SA<br/>WO2007098326A3   WIPO APPLICATIONS   02-OCT-2008</p> <p>31. Data mining method and system</p> <p>A data mining method and system for determining new relevant data from one or more data sources, the data of the data sources comprising pages of data linked together by links is described. The method comprises the steps of visiting the pages of data and obtaining links from the pages to other...</p> <p>ASSIGNMENT: CARLYLE, JAMES (+1)<br/>US20020156890   US APPLICATIONS   24-OCT-2002</p> <p>32. Computerized method, system and program product for generating a data mining model</p> <p>A computerized method, system and program product for generating a data mining model. A user can provide objectives for the model and sample data to train, validate, and</p> |



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Data Mining - SAS.com

Ad

www.sas.com/Data-Mining ▾

Your Complete Guide to Data Mining. Overview & Deep Dive on Data Mining  
What is Data Mining? - Advanced Analytics - SAS® Enterprise Miner™

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VENUS/NEPTUNE DMAS Examination: Final Report

www.barrodale.com/docs/DMAS\_Final\_Report\_041018.pdf

Oct 18, 2004 - BC Ministry of Sustainable Resource Management (BC Active Control ... data, and one targeted at sites that receive data from other sources. .... Users select data by .... "Data Mining", the ability to search within the actual data, will be ..... private database on the data mine server for subsequent analysts ...

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VENUS/NEPTUNE DMAS Report - University of Victoria

venus.uvic.ca/wp-content/uploads/DMAS\_Final\_Report\_041018.pdf

Oct 18, 2004 - BC Ministry of Sustainable Resource Management (BC Active Control ... data, and one targeted at sites that receive data from other sources. ... new database technology, including extensions. .... Users select data by .... "Data Mining", the ability to search within the actual data, will be ..... expanding).

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https://www.elance.com/j/data-mining-data-input-phase-of/42099591/ 0.5

.....

..... elance.com/j/database-driven-website-required-full-cme-back-office/42083615/ 0.5

2011 - Sam Bowne Class Information

https://samsclass.info/old\_news\_2011.html ▾

2011-01-04: China plans marriage database to catch cheaters -- 2011-01-05: ....

2011-01-12: Oracle Hit With \$100 Million Source Code Theft Suit ..... 2011-01-20: Wikileaks accused of data-mining the torrents ..... 2011-02-06: Egypt protests: Police use Facebook and Twitter to track down protesters | Mail Online

Cloudshore.com - Freelance Job Feeds Listings

www.cloudshore.com/archives/2010/Jun/2010-06-29\_32.html

Jul 1, 2010 - The sheet also needs to be very user friendly. ... Good data entry and MYOB accounting skills essential 2 ... I will send you all source docs in PDF and a backup copy of the Quick ..... with the writer simply spinning the articles I send as a resource. .... The first task is a statistical analysis of the databases.

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Data Mining - Your Complete Guide to Data Mining

Ad [www.sas.com/Data-Mining](http://www.sas.com/Data-Mining)

Overview & Deep Dive on Data Mining

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Parvinder S. Chadha - Bloomberg

[www.bloomberg.com/research/stocks/person.asp?...](http://www.bloomberg.com/research/stocks/person.asp?...)
Bloomberg L.P.

Jul 4, 2010 - Mr. Parvinder S. Chadha Founded HandsOn Ventures LLC in 2001 and serves as its Manager. Mr. Chadha serves as Manager of HOV Re, LLC, HOF 2, LLC; ...

Buyer, Beware! - Barron's

[online.barrons.com/articles/SB672290946284922000](http://online.barrons.com/articles/SB672290946284922000)
Barron's

Aug 25, 1997 - Just a few years ago, Barry Witz and Parvinder Chadha were ponytailed promoters of penny stocks. By early this year, though, the ponytails were gone and the ...

More Shell Games - Barron's

[online.barrons.com/articles/SB930358344553196445](http://online.barrons.com/articles/SB930358344553196445)
Barron's

Jun 28, 1999 - ... the firms involved were controlled at various times by A. Barry Witz or Parvinder S. Chadha. ... Currently, Chadha is chief executive of Osicom Technologies, a ...

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BOD & Management - HOVS Ltd.

[www.hovsltd.com/management\\_profile.html](http://www.hovsltd.com/management_profile.html)

May 5, 2011 - Parvinder S Chadha. Mr. Chadha brings over 37 years of experience in building businesses in the Americas, Europe and Asia. His business model – Invest, ...

[PDF] HOV Annual Report 2009-10.pmd - HOVS Ltd.

[www.hovsltd.com/docs/fir/.../HOVS%20Annual%20Report%202009-10...](http://www.hovsltd.com/docs/fir/.../HOVS%20Annual%20Report%202009-10...)

Oct 26, 2009 - ... as one team delivering continuous improvements - our customers who are always first at HOVS". - Mr. Parvinder S. Chadha, Chairman & Executive Director ...

Company HOV Services Ltd. - The Economic Times

[economictimes.indiatimes.com/Markets/Stocks](http://economictimes.indiatimes.com/Markets/Stocks)
The Economic Times

Apr 17, 2006 - HandsOn Ventures, LLC, ("HandsOn") is a private equity group based in the US, 100% of the membership interest of which is owned by Parvinder S. Chadha ...

HOV Services Ltd - HDFC Securities

[www.hdfcsec.com/Company/HOV-Services-Ltd.html](http://www.hdfcsec.com/Company/HOV-Services-Ltd.html)

Nov 16, 2010 - Sunil Rajadhyaksha, Chairman & Exec. Director, Parvinder S Chadha, Executive Director, Surinder Rametra, Executive Director ...

It's a Small World After All: Emerging Protections for the US ...

[www.dwt.com/.../Its\\_a\\_Small\\_World\\_After\\_All...](http://www.dwt.com/.../Its_a_Small_World_After_All...)
Davis Wright Tremaine

Sep 1, 1998 - ... a California-based businessman, Parvinder Chadha and his company, Osicom Technologies Inc., arising from a long investigative article about the company.

HOV Services plans IPO | Business Line

www.thehindubusinessline.com/.../article1744494.ece... Business Line  
Aug 30, 2006 - Mr Parvinder S Chaudhary, Executive Director, ROV Services Ltd, and Mr Vik Negi, Chief Financial Officer, at a press conference in Mumbai on Tuesday.

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 Aug 25, 1997 - Just a few years ago, Barry Witz and Parvinder Chadha were ponytailed .... shares were quietly distributed overseas via Regulation S of the Securities Act of 1933. .... Chadha says shares outstanding grew from two million in January '94 to 14 ...

**Parvinder S. Chadha - Bloomberg**  
[www.bloomberg.com/research/stocks/.../person.asp?...](#) [Bloomberg L.P. ▾](#)  
 Jul 4, 2010 - Mr. Parvinder S. Chadha Founded HandsOn Ventures LLC in 2001 and serves as its Manager. Mr. Chadha serves as Manager of HOV Re, LLC; HOF 2, LLC; ...

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 Sep 1, 1998 - This rule of strict liability was rejected by our Supreme Court in New York Times v. ... was sued in London by a California-based businessman, Parvinder Chadha .... 14 The Uniform Act has been adopted in 21 states, including California and ...

**[PDF] HOV Annual Report 2009-10.pmd - HOVS Ltd.**  
[www.hovsltd.com/docs/ir/.../HOVS%20Annual%20Report%202009-10....](#) [▾](#)  
 Oct 26, 2009 - Mr. Parvinder S. Chadha, Chairman & Executive Director ..... earnings and outgo is contained in the Note number 17(b) of schedule 14B to the Accounts of.

**[PDF] HOV SERVICES LIMITED - HOVS Ltd.**  
[www.hovsltd.com/.../ir/.../HOVS%20Annual%20Report%202006-2007....](#) [▾](#)  
 Jan 27, 2007 - Mr. Parvinder S Chadha .... Particulars furnished pursuant to Companies (Disclosures of Particulars in the Report of Board of Directors) Rules, 1998: .... Page 14 ...

**[PDF] Services - HOVS Ltd.**  
[www.hovsltd.com/docs/ir/.../HOVS%20Annual%20Report%202006-09....](#) [▾](#)  
 Sep 30, 2006 - Mr. Parvinder S Chadha, Executive .... Mechanism (hereinafter referred to as ("DR") per SEBI guidelines and subject to all rules and regulations. .... Page 14 ...

**Company HOV Services Ltd. - The Economic Times**  
[economictimes.indiatimes.com > Markets > Stocks ▾](#) [The Economic Times ▾](#)  
 Apr 17, 2006 - HandsOn Ventures, LLC, ("HandsOn") is a private equity group based in the US. 100% of the membership interest of which is owned by Parvinder S. Chadha ...

**Gastrointestinal infection society of india**  
[www.gisi.in/ ▾](#)  
 Jan 29, 2011 - Gastrointestinal Society of India was born in 2007 as a result of earnest endeavors by the founder member under the societies Act XX1 of 1860.

**Steel Kraft Equipments Pvt. Ltd.**  
[www.steelkraft.com/aboutus.html ▾](#)  
 Jun 17, 2007 - Founder : Mr. Parvinder Chadha. All the above units are well equipped by themselves and have merged to start a new unit in the name and style of M/s. Steelkraft ...

**IAS Planner: Ms. S.Divyadharshini, a female candidate, has ...**  
[iasplanner.blogspot.com/.../ms-sdivyadharshini-female-candidate-has.ht...](#) [▾](#)  
 May 11, 2011 - In accordance with Rule 16(4) & (5) of the Civil Services Examination Rules, 2010, the Commission is maintaining a consolidated ... 14 004750 VINAY

PRATAP SINGH .... 202 316065 EKTA CHADHA ... 288 000156 PARVINDER SINGH.

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### Sharon Gill - Realty Executives of Cape County

[www.capeareahomes.com/SharonGill.aspx](http://www.capeareahomes.com/SharonGill.aspx) ▾

Jun 13, 2009 - In real estate, there is no substitute for experience, knowledge of the area and attention to detail. Most every realtor comes equipped with those tools, but what I ...

**[PDF]** Sharon Gill, on her own behalf and on behalf of the ... - IN...

[www.in.gov/judiciary/opinions/pdf/0625201201fsj.pdf](http://www.in.gov/judiciary/opinions/pdf/0625201201fsj.pdf) ▾ Indiana ▾

Jun 25, 2012 - On May 4, 2007, Sharon Gill filed a complaint in Marion Superior Court against ESMW ... thereby triggering specific local rules applicable in asbestos cases. .... 14 We observe that, though different, the fixtures approach and the commonsense ...

**[PDF]** Sharon Gill v. Evansville Sheet Metal Works, Inc.

[www.ai.org/judiciary/opinions/pdf/12151001par.pdf](http://www.ai.org/judiciary/opinions/pdf/12151001par.pdf) ▾

Dec 15, 2010 - Appellant-Plaintiff, Sharon Gill (Sharon), on her own behalf and on behalf of the ... In reviewing a trial court's ruling on summary judgment, this court stands in

### Sharon Chadha - Google+

<https://plus.google.com/111963313955499340520> ▾

Aug 14, 2011 - Sharon Chadha - Rule 14 - Massachusetts Institute of Technology - Smith College - West High.

**IMDb: Indian\_wanna see - a list by jashHider**

[www.imdb.com/list/ls003949616/](http://www.imdb.com/list/ls003949616/) ▾ Internet Movie Database ▾

Nov 11, 2011 - ... of the Indian revolts against the British rule through his philosophy of nonviolent protest. .... Director: Gurinder Chadha .... Set in the turbulence of the 1930s British India, a 14 year old boy, Jhunku, and his ..... Canadian Student Sharon Gill comes to India for her research on the topic "why minority was at war in Punjab".

**Table of Contents (Stanford Encyclopedia of Philosophy)**

[plato.stanford.edu/contents.html](http://plato.stanford.edu/contents.html) ▾ Stanford Encyclopedia of Philosophy ▾

Feb 1, 2001 - rule (Brad Hooker) .... moral and political philosophy (Sharon A. Lloyd and Susanne Sreedhar); theory of emotion ---- see emotion: 17th and 18th century theories of ... (Amita Chatterjee); perceptual experience and concepts (Monima Chadha) .... method and metaphysics in the Sophist and Statesman (Mary Louise Gill) ...

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[gangstemomics.com/register.php](http://gangstemomics.com/register.php) ▾

Aug 31, 2008 - (Email Must Be Verified By Us Before Account Is Activated). Confirm Your Email Address. Your Birthdate. Day, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 ...

### Sunita Williams | Ashish Kumar Sen | Sep 24,2007 - Outlook

[www.outlookindia.com/article/sunita-williams/235639](http://www.outlookindia.com/article/sunita-williams/235639) ▾ Outlook ▾

Sep 15, 2007 - J&K: Army Stages Flag March in Samba, 14 Injured in Clashes - Govt Making 'Fool of ... HC Stays Compulsory Voting Rate in Gujarat Civic Polls - Rijju for NE ...

### Laurie Kaplan - The Jane Austen Society of North America

[www.jasna.org/.../jon.../kaplan.htm](http://www.jasna.org/.../jon.../kaplan.htm) ▾ Jane Austen Society of North America ▾

by L. Kaplan - Cited by 3 - Related articles

Dec 17, 2009 - Ignoring Highbury's class-bound rules about behavior and the well-defined .... Neither Gill nor other reviewers mentions the "modern" thrust of the production. .... like Elizabeth Bennet, speaks too freely because her father's power is weak' (14). .... Tamil-language Kandukondain Kandukondain (2000); Sharon Maguire's film ...

[PDF] Hepting v. AT&T Corp. - Electronic Frontier Foundation  
[https://www.eff.org/hepting\\_petition\\_f...](https://www.eff.org/hepting_petition_f...) \* Electronic Frontier Foundation \*  
Mar 26, 2012 - Julie Davis; Sharon L. Davis; Toni Didona; Theresa R. Duffy; Thomas  
S. Dwyer; Thomas ... Linda J. Gettier; Jill Gill; Mike Gilmore; Jayson. Gleason;  
Marc .... Chadha, 462 U.S. 919 (1983) ..... 11 . Page 14 . the rule of  
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<https://plus.google.com/111963313955499340520> ▾  
 Aug 14, 2011 - Sharon Chadha - Rule 14 - Massachusetts Institute of Technology -  
 Smith College - West High.

**Pages from a wedding album : Simply Punjabi - India Today**  
[indiatoday.intoday.in](http://indiatoday.intoday.in) ▾ ... ▾ November 3, 2008 ▾ India Today ▾  
 Nov 3, 2008 - Aarhi was from Hyderabad and Abhishek Gill, 26, from Ludhiana. They  
 met in 2000. ... Sharon Mittal met Nikhil, 28, the owner of Nik Bakers, in October 2006  
 as a customer. "I was planning to go ... PUNEET CHADHA, LUDHIANA, 26.  
 PUNEET ...

**Morning Star Secondary School - Alumni - dbusguy**  
[www.dbusguy.com/MorningStar/alumni.htm](http://www.dbusguy.com/MorningStar/alumni.htm) ▾  
 Feb 1, 2011 - volen@hotmail.com - Amarinder Singh Chadha ... Parmneek Gill  
 2000 ... Sharon Lalbeharry, my wife, also went to Morningstar from Grade 9 to  
 Graduation.

**Heena Chadha - Address, Phone, Public Records - Radaris**  
[radaris.com/p/Heena/Chadha/](http://radaris.com/p/Heena/Chadha/)  
 Feb 20, 2011 - Related to: Sharon Gill ChadhaBhagwant R ChadhaPavinder S  
 Chadha, Heena Chadha, 43. Has lived in: Birmingham, ALNaperville, ILDurham,  
 NC Raleigh, ...

**Speakers & Biographies | Working Mother Media | Working ...**  
[www.workingmother.com/bios](http://www.workingmother.com/bios) ▾ Working Mother ▾  
 Jan 25, 2011 - Jennifer Christie - Jennifer Damico - Jennifer Gill .... Shalu Chadha -  
 Shana Abom - Shannon Sriedstad ... Sharon Melnick, PhD - Sharon Orlopp - Shawn  
 Boyer.

**Retaliation Against Bruce B. Feyz, MD - Alliance for Patient ...**  
[www.allianceforpatientsafety.org/retaliation-list.php](http://www.allianceforpatientsafety.org/retaliation-list.php) ▾  
 Jan 30, 2009 - Retaliation Against Dr. Mohinder Chadha More Information ...  
 Retaliation Against Zora S. Gill More Information .... Retaliation Against Sharon  
 Siegel, M.D.

**Awards - Bharat Nirman**  
[www.bharatnirman.org/awards.html](http://www.bharatnirman.org/awards.html) ▾  
 Jun 28, 2007 - Dr. Geeta Chadha Shitani Kashyap, 2001 (Delhi) ... Sharon  
 Prabhakar Vasundhara Pendse Naik .... Amarjyot Singh Gill (Jaipur) 146. Ajit Singh  
 (Jaipur) 147.

**CSU Stanislaus Degree Recipients 2010**  
[turlockcitynews.com/index.php?view=article&catid...and-social...](http://turlockcitynews.com/index.php?view=article&catid...and-social...) ▾  
 May 13, 2010 - Sharon Denise Leroux, Gustavo Magana, Yolanda Magana ...  
 Amarinder Singh Gill, Karnalpreet Kaur Gill, Kellie Griffin .... Neha Chadha, Nikesh K  
 Chand.

**Certified Testers | CSTB**  
[cstb.ca/certified-testers](http://cstb.ca/certified-testers) ▾  
 Mar 26, 2012 - ... Bowie, James Taylor; Boyle, Sharon; Bozdanov, Yuri; Braakman,  
 Christine; Bresten, ... Chaban, William John; Chada, Ravikiran Reddy; Chadha, Anita;  
 Chadha, .... Gill, Diana; Gill, Amandeep, Gill, Amandeep Kaur; Gill, Amarinderjit; Gill,  
 Avi ...

**Awards program honors students, faculty, and staff | Penn ...**  
[news.psu.edu/awards-program-honors-st](http://news.psu.edu/awards-program-honors-st) ▾ Pennsylvania State University ▾  
 May 1, 2012 - One student wrote, "Dr. Gill is the most enthusiastic professor I have  
 ever had. ... M. Cabrera, York, Pa.; Shibani R. Chadha, York, Pa.; Virginia A.

Clousher, Hanover, Pa.; ... Sharon E. Christ, director of enrollment management and strategic ...

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### Xincheng Station - Wikipedia, the free encyclopedia

[https://en.wikipedia.org/wiki/Xincheng\\_Station](https://en.wikipedia.org/wiki/Xincheng_Station) ▾ Wikipedia ▾

Oct 12, 2008 - Xincheng Station (Chinese: 新城車站, pinyin: Xīnchéng Chézhàn) is a railway station of the Taiwan Railway Administration (TRA) North-Link Line located in ...

### Xincheng - Wikipedia, the free encyclopedia

<https://en.wikipedia.org/wiki/Xincheng> ▾ Wikipedia ▾

Aug 27, 2007 - Xincheng Air Base and Yinchuan/Xincheng Air Base, both in the Lanzhou Military Region of the PRC; Xincheng, one of the nine commanderies of the ...

### Xincheng - Wikipedia

<https://de.wikipedia.org/wiki/Xincheng> ▾ Translate this page German Wikipedia ▾

Mar 1, 2008 - den Stadtbezirk Xincheng (新城区) der Stadt Hohhot im Autonomen Gebiet Innere Mongolei, VR China, siehe Xincheng (Hohhot), den Stadtbezirk Xincheng ...

### Ji-Xin Cheng - Our People - Biomedical Engineering ...

[engineering.purdue.edu](http://engineering.purdue.edu) ▾ ... ▾ Our People ▾ Purdue University ▾

Jun 9, 2006 - Ji-Xin Cheng, Professor of Biomedical Engineering Professor of Chemistry. Email: jcheng@purdue.edu. Phone: +1 765 494-4335. Fax: +1 765 496-1912.

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Apr 2, 2012 - Xincheng, Taiwan: See traveler reviews, candid photos, and great deals for Xincheng at TripAdvisor.

### Xincheng Zhang | LinkedIn

<https://www.linkedin.com/pub/xincheng-zhang/14/544/15b> ▾

San Francisco Bay Area - Software Engineer

Mar 18, 2012 - View Xincheng Zhang's professional profile on LinkedIn. LinkedIn is the world's largest business network, helping professionals like Xincheng Zhang discover ...

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Jul 15, 2003 - View Ji-Xin Cheng's professional profile on LinkedIn. LinkedIn is the world's largest business network, helping professionals like Ji-Xin Cheng discover inside ...

### Xincheng Hotels, Taiwan: Great savings and real reviews

[www.agoda.com/city/xincheng-tw.html](http://www.agoda.com/city/xincheng-tw.html) ▾ Agoda ▾

Apr 3, 2009 - Great discounts on Xincheng hotels, Taiwan. BOOK NOW, PAY LATER for many hotels. Photos and real guest reviews to help you choose the best deal.

1.6 Xie, Xincheng 7 RATINGS - RateMyProfessors.com  
www.ratemyp Professors.com/ShowRatings.jsp?tid... ▾ RateMyProfessors.com ▸  
Jun 14, 2007 - Rating and reviews for Professor Xincheng Xie from Oklahoma State  
University Stillwater, OK United States

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**Xin Cheng, Chief Executive Officer | Rule 14 | Big Data ...**  
[www.rule14.com/rule14/?q=node/379](http://www.rule14.com/rule14/?q=node/379) ▾  
 Feb 27, 2016 - Xin is a Managing Partner and Founding Member of HandsOn<sup>®</sup> and directs HandsOn<sup>®</sup>'s business development efforts globally, more specifically in India, China ...

**[PDF] continuing connected transactions - Shui On Land**  
[www.shuioland.com/en-us/investor/Announcement/.../89](http://www.shuioland.com/en-us/investor/Announcement/.../89) ▾ Shui On Land ▾  
 Sep 25, 2009 - the Rui Hong Xin Cheng Project. On 27 October 2009, ... pursuant to Rule 14A.11(4)(c) of the Listing Rules, and is therefore an associate of a connected person ...

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 Jul 23, 2012 - 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28. UNITED STATES ... Co ("Shen"), and individual defendants Xincheng Gao, Albert C. Pu, Gaihong Li, Larry ... 2012, plaintiffs filed a motion under Rule 4(f)(3) of the Federal Rules of Civil ...

**Matt Brown | LinkedIn**  
<https://www.linkedin.com/pub/matt-brown/8/573/75>  
 Greater Los Angeles Area - Vice President at HandsOn Global Management  
 Jan 26, 2012 - HandsOn Global Management, Rule 14. Previous ... Director, Business Development and Strategic Imperatives. Rule 14, September ... Xin Cheng, Partner of ...

**Li Chengqian - Wikipedia, the free encyclopedia**  
[https://en.wikipedia.org/wiki/Li\\_Chengqian](https://en.wikipedia.org/wiki/Li_Chengqian) ▾ Wikipedia ▾  
 May 10, 2007 - Li Chengqian was created crown prince in 627 at the age of eight, after his father ... his imperial authority, but still had Li Chengqian rule on more minor issues. It was ... Li Chengqian had favored a young man that he nicknamed Changxin (常心), ... 28. Gao Yue, Prince of Qinghe, 14. Gao Jingde or Gao Mai, Prince of Le'an.

**Wang Mang - Wikipedia, the free encyclopedia**  
[https://en.wikipedia.org/wiki/Wang\\_Mang](https://en.wikipedia.org/wiki/Wang_Mang) ▾ Wikipedia ▾  
 Sep 15, 2005 - Emperor Chang's nephew Crown Prince Liu Xin (劉欣) (the son of his brother ... the title of "Acting Emperor" (假皇帝), with the commission to rule as emperor until ... a temporary detente in 14, when Xian returned Xin defectors Chen Liang (陳 ...

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[www.ihjuchem.com/en/down.aspx?id=13](http://www.ihjuchem.com/en/down.aspx?id=13)  
 Oct 15, 2008 - XINCHENG DIS. HOHHOT, INNER MONGOLIA, CHINA. TEL: +86-471-2212811/12/13/14/15/16/; +86-471-2301006/08/16/18/82 FAX: +86-471-2212810.

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Mar 1, 2000 - Phone: 979-845-9919, Fax: 979-845-0278, Email: [d-cheng@ttimail.tamu.edu](mailto:d-cheng@ttimail.tamu.edu) ... rules are applied together, one can practically minimizes the resulting delay at an isolated ..... for the total lost time of 12, 14, 16, 18 and 20 seconds, respectively.

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|                                                                                                     | First Named Inventor   | Sharon Gill CHADHA |            |  |
|                                                                                                     | Art Unit               | 2167               |            |  |
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

# PATENT COOPERATION TREATY

|                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Seyfarth Shaw LLP</b><br><b>IP Docketing</b><br><b>DATE REC'D:</b> <u>4/15</u><br><b>Rec'd By:</b> <u>[Signature]</u><br><b>Reported By:</b> <u>          </u> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|

From the INTERNATIONAL SEARCHING AUTHORITY

|                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------|
| <b>To:</b> PUYA PARTOW-NAVID<br>SEYFARTH SHAW LLP<br>SUITE 3500<br>2029 CENTURY PARK EAST<br>LOS ANGELES, CA 90067-3021 |
|-------------------------------------------------------------------------------------------------------------------------|

## PCT

NOTIFICATION OF TRANSMITTAL OF  
 THE INTERNATIONAL SEARCH REPORT AND  
 THE WRITTEN OPINION OF THE INTERNATIONAL  
 SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

|                                                              |                                                                                |
|--------------------------------------------------------------|--------------------------------------------------------------------------------|
| Applicant's or agent's file reference<br><b>79531-000005</b> | <b>FOR FURTHER ACTION</b> See paragraphs 1 and 4 below                         |
| International application No.<br><b>PCT/US 14/44134</b>      | International filing date<br>(day/month/year) <b>25 June 2014 (25.06.2014)</b> |
| Applicant <b>RULE 14</b>                                     |                                                                                |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. <input checked="" type="checkbox"/> The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.</p> <p><b>Filing of amendments and statement under Article 19:</b><br/>         The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):</p> <p><b>When?</b> The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.</p> <p><b>How?</b> Directly to the International Bureau of WIPO preferably through ePCT or on paper to, 34 chemin des Colombettes<br/>         1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70</p> <p><b>For more detailed instructions, see PCT Applicant's Guide, International Phase, paragraphs 9.004 – 9.011.</b></p> <p>2. <input type="checkbox"/> The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.</p> <p>3. <input type="checkbox"/> <b>With regard to any protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:</b></p> <div style="margin-left: 20px;"> <input type="checkbox"/> the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.<br/> <input type="checkbox"/> no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.       </div> <p>4. <b>Reminders</b></p> <p>The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. These comments will be made available to the public after international publication. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established.</p> <p>Shortly after the expiration of <b>18 months from the priority date, the international application will be published</b> by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90bis.1 and 90bis.3).</p> <p>Within <b>19 months</b> from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase <b>until 30 months</b> from the priority date (in some Offices even later); otherwise, the applicant must, <b>within 20 months</b> from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices. In respect of other designated Offices, the time limit of <b>30 months</b> (or later) will apply even if no demand is filed within 19 months. For details about the applicable time limits, Office by Office, see <a href="http://www.wipo.int/pct/en/texts/time_limits.html">www.wipo.int/pct/en/texts/time_limits.html</a> and the <i>PCT Applicant's Guide, National Chapters</i>.</p> <p>Within <b>19 months from the priority date, the applicant may request that a supplementary international search be carried out</b> by a different International Searching Authority that offers this service (Rule 45bis.1). The procedure for requesting supplementary international search is described in the <i>PCT Applicant's Guide, International Phase, paragraphs 8.006-8.032</i>.</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                                                 |                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name and mailing address of the ISA/<br>Mail Stop PCT, Attn: ISA/US<br>Commissioner for Patents<br>P.O. Box 1450, Alexandria, Virginia 22313-1450<br>Facsimile No. 571-273-3201 | Authorized officer<br><div style="text-align: right;">Lee W. Young</div> <div style="text-align: right;">PCT Helpdesk: 571-272-4300</div> <div style="text-align: right;">Telephone No. PCT OSP: 571-272-1774</div> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Form PCT/ISA/220 (July 2014)

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: PUYA PARTOW-NAVID  
SEYFARTH SHAW LLP  
SUITE 3500  
2029 CENTURY PARK EAST  
LOS ANGELES, CA 90067-3021

# PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT AND  
THE WRITTEN OPINION OF THE INTERNATIONAL  
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing  
(day/month/year)

01 APR 2015

Applicant's or agent's file reference  
79531-000005

**FOR FURTHER ACTION** See paragraphs 1 and 4 below

International application No.  
PCT/US 14/44134

International filing date  
(day/month/year) 25 June 2014 (25.06.2014)

Applicant **RULE 14**

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

**When?** The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

**How?** Directly to the International Bureau of WIPO preferably through ePCT or on paper to, 34 chemin des Colombettes  
1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 – 9.011.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ With regard to any protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

**4. Reminders**

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. These comments will be made available to the public after international publication. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established.

Shortly after the expiration of 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90bis.1 and 90bis.3).

Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices. In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months. For details about the applicable time limits, Office by Office, see [www.wipo.int/pct/en/texts/time\\_limits.html](http://www.wipo.int/pct/en/texts/time_limits.html) and the *PCT Applicant's Guide*, National Chapters.

Within 19 months from the priority date, the applicant may request that a supplementary international search be carried out by a different International Searching Authority that offers this service (Rule 45bis.1). The procedure for requesting supplementary international search is described in the *PCT Applicant's Guide*, International Phase, paragraphs 8.006-8.032.

Name and mailing address of the ISA/  
Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450, Alexandria, Virginia 22313-1450  
Facsimile No. 571-273-3201

Authorized officer

Lee W. Young

Telephone No. PCT Helpdesk: 571-272-4300  
PCT OSP: 571-272-7774

Form PCT/ISA/220 (July 2014)

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

|                                                       |                                                                                  |                                                                                 |
|-------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Applicant's or agent's file reference<br>79531-000005 | <b>FOR FURTHER ACTION</b>                                                        | see Form PCT/ISA/220<br>as well as, where applicable, item 5 below.             |
| International application No.<br>PCT/US 14/44134      | International filing date ( <i>day/month/year</i> )<br>25 June 2014 (25.06.2014) | (Earliest) Priority Date ( <i>day/month/year</i> )<br>26 June 2013 (26.06.2013) |
| Applicant<br>RULE 14                                  |                                                                                  |                                                                                 |

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into \_\_\_\_\_ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the rectification of an obvious mistake authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (see Box No. II).

3. ☐ Unity of invention is lacking (see Box No. III).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. 2

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☒ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 14/44134

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06F 7/00 (2014.01)

CPC - G06F 17/30864

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: G06F 7/00 (2014.01),

CPC: G06F17/30864

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
USPC:(707/708 or 707/705 or 707/999.001 or 707/999.006 or 707/999.003)

IPC(8): G06F 7/00 (2014.01) ,CPC: (G06F17/30864 or G06F17/30867 or G06Q30/02 or G06F17/3089 or G06F17/30011 )

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Google Scholar; Google patents; PatBase

Search Terms : analyze, data, generate, query, monitor, search engine, real time datamining, bots, extractors, natural language processors.

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category*   | Citation of document, with indication, where appropriate, of the relevant passages                                                                                       | Relevant to claim No.                   |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| X<br>—<br>Y | US 6,260,041 B1 (Gonzalez et al.) 10 July 2001 (10.07.2001), entire document especially col 2, ln 21-24, col 1, ln 49- 50, col 5, ln 11-15 and col 3, ln 42-46.          | 1 , 6, 8-10, 19<br>2-5, 7, 11-18, 20-21 |
| Y           | US 2012/0150645 A1 (Mandyam et al.) 14 June 2012 (14.06.2012) entire document especially col 3, ln 38-45, col 4, ln 21-24,col 5 and ln 31-40.                            | 2-3, 11-18, 20                          |
| Y           | US 2005/0283473 A1 (Rousso et al.) 22 December 2005 (22.12.2005) entire document especially paragraphs [0024], [0075], [0079], para [0066], para [0077] and para [0120]. | 4, 5, 7, 13, 14, 16 and 21              |

☐ Further documents are listed in the continuation of Box C.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

13 October 2014 (13.10.2014)

Date of mailing of the international search report

01 APR 2015

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents  
P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-3201

Authorized officer:

Lee W. Young

PCT Helpdesk: 571-272-4300

PCT OSP: 571-272-7774

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To: PUYA PARTOW-NAVID  
SEYFARTH SHAW LLP  
SUITE 3500  
2029 CENTURY PARK EAST  
LOS ANGELES, CA 90067-3021

# PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

|                                                                                                                                                        |  |                                                                                                                              |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------|--|
| Applicant's or agent's file reference<br><b>79531-000005</b>                                                                                           |  | Date of mailing<br><i>(day/month/year)</i> <div style="float: right; font-size: 1.2em; font-weight: bold;">01 APR 2015</div> |  |
| International application No.<br><b>PCT/US 14/44134</b>                                                                                                |  | International filing date <i>(day/month/year)</i><br><b>25 June 2014 (25.06.2014)</b>                                        |  |
| International Patent Classification (IPC) or both national classification and IPC<br><b>IPC(8) - G06F 7/00 (2014.01)</b><br><b>CPC - G06F 17/30864</b> |  | Priority date <i>(day/month/year)</i><br><b>26 June 2013 (26.06.2013)</b>                                                    |  |
| Applicant <b>RULE 14</b>                                                                                                                               |  |                                                                                                                              |  |

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

|                                                                                                                                                                                   |                                                                                                                              |                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name and mailing address of the ISA/US<br>Mail Stop PCT, Attn: ISA/US<br>Commissioner for Patents<br>P.O. Box 1450, Alexandria, Virginia 22313-1450<br>Facsimile No. 571-273-3201 | Date of completion of this opinion<br><div style="text-align: center; font-weight: bold;">13 October 2014 (13.10.2014)</div> | Authorized officer:<br><div style="text-align: center;">Lee W. Young</div> <div style="font-size: 0.8em;">             PCT Helpdesk: 571-272-4300<br/>             PCT OSP: 571-272-7774           </div> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Form PCT/ISA/237 (cover sheet) (July 2011)

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US 14/44134

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:
  - ☒ the international application in the language in which it was filed.
  - ☐ a translation of the international application into \_\_\_\_\_ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:
  - a. (means)
    - ☐ on paper
    - ☐ in electronic form
  - b. (time)
    - ☐ in the international application as filed
    - ☐ together with the international application in electronic form
    - ☐ subsequently to this Authority for the purposes of search
4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US 14/44134

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

|                               |        |                      |     |
|-------------------------------|--------|----------------------|-----|
| Novelty (N)                   | Claims | 2-5, 7, 11-18, 20-21 | YES |
|                               | Claims | 1, 6, 8-10, 19       | NO  |
| Inventive step (IS)           | Claims | None                 | YES |
|                               | Claims | 1-21                 | NO  |
| Industrial applicability (IA) | Claims | 1-21                 | YES |
|                               | Claims | None                 | NO  |

**2. Citations and explanations:**

Claims 1, 6, 8-10 and 19 lack novelty under PCT Article 33(2) as being anticipated by US 6,260,041 B1 to Gonzalez et al (hereinafter "Gonzalez").

Regarding claim 1, Gonzalez discloses a method of analyzing data (col 2, in 21-24, a monitoring and retrieval apparatus and (corresponding method) is embodied in a fast Internet real-time search technology (FIRST) system, as illustrated in FIG. 1.), comprising: generating a query based at least in part on a topic of interest (col 1, in 49- 50, inputting and editing a list of desired search terms, and a list of resource locations to be monitored.); expanding search terms of the query (col 2, in 50- 54, in the client file therefore the user could enter the company name Oracle. or Oracle Corporation. as its desired search terms, together with any additional search terms such as the stock symbol .ORCL.); executing the query on a plurality of data sources (col 5, in 11-15, the invention may easily be deployed to monitor other communication networks (e.g., intranets, private bulletin boards, individual local or wide area networks, proprietary chat rooms, ICQ, IRC channels, instant messaging systems, ThirdVoice postings, etc.); and monitoring at least one specific data source selected from the plurality of data sources for matches to the query (col 3, in 42-46 In operation, the illustrated embodiment described above allows the FIRST system to monitor and retrieve information from one or more predetermined resources in accordance with the operational flow depicted in FIG. 3 in (steps S30 through S38).

Regarding claim 6, Gonzalez discloses a method and an apparatus, in which the plurality of data sources include open source data sources that are publically available and closed-source data sources that are not publically accessible (col 5, in 11-15, the invention may easily be deployed to monitor other communication networks (e.g., intranets, private bulletin boards, individual local or Wide area networks, proprietary chat rooms, ICQ, IRC channels, instant messaging systems, ThirdVoice postings, etc).

Regarding claim 8, Gonzalez discloses a method and an apparatus in which the plurality of data sources are pre-defined (col 3, in 42-46, in operation, the illustrated embodiment described above allows the FIRST system to monitor and retrieve information from one or more predetermined resources in accordance with the operational flow depicted in FIG. 3 in (steps S30through S38)).

Regarding claim 9, Gonzalez discloses an apparatus in which the at least one processor is further configured to deploy extractors to each of specific data source, a number of extractors being dynamic based at least in part on a traffic volume of each specific data source (col 3, in 13- 20 In the preferred embodiment, a single bot is assigned to perform a single script in the script directory 16, although other embodiments could permit multiple scripts being executed by a single bot (or a single script being executed by multiple bots), as desired. Each bot is preferably programmed uniquely in accordance with the tasks required).

Regarding claim 10, Gonzalez discloses an apparatus configured to analyze data (col 2, in 21-24, a monitoring and retrieval apparatus and (corresponding method) is embodied in a fast Internet real-time search technology (FIRST) system, as illustrated in FIG. 1.), the apparatus comprising: a memory unit; and at least one processor coupled to the memory unit, in which the at least one processor is configured (col 2, in 37-40, As illustrated in FIG. 2, a central processing unit (CPU) 20 is provided for execution of one or more computer programs stored in a recording medium such as memory 22): to generate a query based at least in part on a topic of interest (col 1, in 49- 50, inputting and editing a list of desired search terms, and a list of resource locations to be monitored.); to expand search terms of the query (col 2, in 50- 54, in the client file therefore the user could enter the company name .Oracle. or .Oracle Corporation. as its desired search terms, together with any additional search terms such as the stock symbol .ORCL.); to execute the query on a plurality of data sources (col 5, in 11-14, the invention may easily be deployed to monitor other communication networks (e.g., intranets, private bulletin boards, individual local or wide area networks, proprietary chat rooms, ICQ, IRC channels, instant messaging systems, ThirdVoice postings, etc.); and to monitor at least one specific data source selected from the plurality of data sources for matches to the query (col 3, in 42-46 In operation, the illustrated embodiment described above allows the FIRST system to monitor and retrieve information from one or more predetermined resources in accordance with the operational flow depicted in FIG. 3 in (steps S30 through S38).

-Continuation in Supplemental Box-

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US 14/44134

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box V, 2: Citations and Explanations:

Regarding claim 19, Gonzalez discloses a computer program product for data analysis (col 5, in 39-45, Indeed, even a single general purpose computer executing a computer program stored on a recording medium to produce the functionality and any other memory devices referred to herein may be utilized to implement the illustrated embodiments), the computer program product comprising: a non-transitory computer-readable medium having program code recorded thereon (col 2, in 37-40, As illustrated in FIG. 2, a central processing unit (CPU) 20 is provided for execution of one or more computer programs stored in a recording medium such as memory 22.); the program code comprising program code to generate a query based at least in part on a topic of interest (col 1, in 49- 50, inputting and editing a list of desired search terms, and a list of resource locations to be monitored.); program code to expand search terms of the query (col 2, in 50- 54, In the client file therefore the user could enter the company name .Oracle. or .Oracle Corporation, as its desired search terms, together with any additional search terms such as the stock symbol .ORCL.); program code to execute the query on a plurality of data sources (col 5, in 11-15 the invention may easily be deployed to monitor other communication networks (e.g., intranets, private bulletin boards, individual local or wide area networks, proprietary chat rooms, ICQ, IRC channels, instant messaging systems, ThirdVoice postings, etc.); and program code to monitor at least one specific data source selected from the plurality of data sources for matches to the query (col 3, in 42-46 In operation, the illustrated embodiment described above allows the FIRST system to monitor and retrieve information from one or more pre-determined resources in accordance with the operational flow depicted in FIG. 3 in (steps S30 through S38).

Claims 2, 3, 11, 12, 15, 17-18 and 20 lack an inventive step under PCT Article 33(3) as being obvious over Gonzalez in view of US 2012/0150645 A1 to Mandyam et al. (hereinafter 'Mandyam').

Regarding claim 2, Gonzalez discloses a method further comprising extracting data from the at least one monitored specific data source (col 1, in 44-48, method of monitoring and retrieving identifiable statements and other information pertinent to one or more desired search terms or concepts); analyzing the extracted data (col 1, in 50-58, A server causes the periodic access of each resource location listed to determine whether any information on a particular resource location has been added that is pertinent to the desired search terms since the previous visit to the location. Any added information is returned to the server for processing. An alert message can be generated and forwarded to an intended recipient to alert the recipient of the added information).

Gonzalez does not expressly disclose establishing a communication channel with a user based at least in part on the analyzed data; and receiving feedback from the user based at least in part on the generated feedback. However, Mandyam does teach establishing a communication channel (para [0017], Then the system 10 according to aspects of an embodiment of the disclosed subject matter, can send to selected users (which could be all users or a sub-set of all users) in the target market, represented illustratively only by wireless remote units 20 a and 20 b along with wireless remote units 24 a and 24 b and computers 76 a-c, an advertisement, e.g., a display advertisement for sushi restaurants) with a user based at least in part on the analyzed data; (para [0020], Such granularity may be selected or dictated by an analysis of the incoming accessing requests and the then current location(s) of the users seeking such accessing (i.e., by conducting a search, by utilizing a link, or otherwise logging-on to a pertinent web-site or web-page, etc.) and receiving feedback from the user based at least in part on the generated feedback ( para [0025], This may be done in an ongoing fashion, such that, if only a relatively small number of users are reacting to the delivery of the advertisement in a certain geographic area, or after the passage of some measurable time, or over a certain selected media, then the delivery of the advertisement could be modified or cancelled where it is being demonstrated to not be effective or be relatively less effective. Similarly positive user feedback information could lead to extending the target market 30, geographically, temporally or otherwise). It would have been obvious to one of ordinary skill in the art to modify the method of Gonzalez to use the communication channel and feedback system as in Mandyam because it allows more relevant results to be provided to the user.

Regarding claim 3, Gonzalez discloses a method further comprising visualizing at least the extracted data, the analyzed data, or a combination thereof. (col 2, in 28- 30, Maximilian server 12 receives inputs and delivers output to users through user interface).

Regarding claim 11, Gonzalez discloses an apparatus in which the at least one processor is further configured: to extract data from the at least one monitored specific data source (col 1, in 44-48, method of monitoring and retrieving identifiable statements and other information pertinent to one or more desired search terms or concepts); to analyze the extracted data (col 1, in 50-58, A server causes the periodic access of each resource location listed to determine whether any information on a particular resource location has been added that is pertinent to the desired search terms since the previous visit to the location. Any added information is returned to the server for processing. An alert message can be generated and forwarded to an intended recipient to alert the recipient of the added information);

Gonzalez does not expressly disclose establishing a communication channel with a user based at least in part on the analyzed data; and receiving feedback from the user based at least in part on the generated feedback. However, Mandyam does teach to establish a communication channel (para [0017], Then the system 10 according to aspects of an embodiment of the disclosed subject matter, can send to selected users (which could be all users or a sub-set of all users) in the target market, represented illustratively only by wireless remote units 20 a and 20 b along with wireless remote units 24 a and 24 b and computers 76 a-c, an advertisement, e.g., a display advertisement for sushi restaurants) with a user based at least in part on the analyzed data; and to receive feedback from the user based at least in part on the generated feedback( para [0025], This may be done in an ongoing fashion, such that, if only a relatively small number of users are reacting to the delivery of the advertisement in a certain geographic area, or after the passage of some measurable time, or over a certain selected media, then the delivery of the advertisement could be modified or cancelled where it is being demonstrated to not be effective or be relatively less effective. Similarly positive user feedback information could lead to extending the target market 30, geographically, temporally or otherwise). It would have been obvious to one of ordinary skill in the art to modify apparatus of Gonzalez to use the communication channel and feedback system as in Mandyam because more relevant results to be provided to the user.

Regarding claim 12, Gonzalez discloses an apparatus in which the at least one processor is further configured to visualize at least the extracted data, the analyzed data, or a combination thereof. (col 2, in 28- 30, Maximilian server 12 receives inputs and delivers output to users through user interface).

-Continuation in Supplemental Box-

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/US 14/44134

Supplemental Box

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Continuation of:

Regarding claim 15, Gonzalez teaches an apparatus in which the plurality of data sources include opensource data sources that are publically available and closed-source data sources that are not publically accessible. (col 5, in 11-15, the invention may easily be deployed to monitor other communication networks (e.g., intranets, private bulletin boards, individual local or Wide area networks, proprietary chat rooms, ICQ, IRC channels, instant messaging systems, ThirdVoice postings, etc.).

Regarding claim 17, Gonzalez teaches an apparatus, in which the plurality of data sources are predefined (col 3, in 42-46, in operation, the illustrated embodiment described above allows the FIRST system to monitor and retrieve information from one or more predetermined resources in accordance with the operational flow depicted in FIG. 3 in (steps S30 through S38)).

Regarding claim 18, Gonzalez discloses an apparatus, in which the at least one processor is further configured to deploy extractors to each of specific data source, a number of extractors being dynamic based at least in part on a traffic volume of each specific data source (col 3, in 13- 20 in the preferred embodiment, a single bot is assigned to perform a single script in the script directory 16, although other embodiments could permit multiple scripts being executed by a single bot (or a single script being executed by multiple bots), as desired. Each bot is preferably programmed uniquely in accordance with the tasks required).

Regarding claim 20, Gonzalez discloses a computer program, further comprising: program code to extract data from the at least one monitored specific data source (col 1, in 44-48, method of monitoring and retrieving identifiable statements and other information pertinent to one or more desired search terms or concepts); program code to analyze the extracted data (col 1, in 50 -58, A server causes the periodic access of each resource location listed to determine whether any information on a particular resource location has been added that is pertinent to the desired search terms since the previous visit to the location. Any added information is returned to the server for processing. An alert message can be generated and forwarded to an intended recipient to alert the recipient of the added information);

Gonzalez does not expressly disclose a program code to establish a communication channel with a user based at least in part on the analyzed data; and program code to receive feedback from the user based at least in part on the generated feedback.

However, Mandyam does teach a program code to establish a communication channel (para [0017], Then the system 10 according to aspects of an embodiment of the disclosed subject matter, can send to selected users (which could be all users or a sub-set of all users) in the target market, represented illustratively only by wireless remote units 20 a and 20 b along with wireless remote units 24 a and 24 b and computers 76 a-c, an advertisement, e.g., a display advertisement for sushi restaurants) with a user based at least in part on the analyzed data; (para [0020], Such granularity may be selected or dictated by an analysis of the incoming accessing requests and the then current location(s) of the users seeking such accessing (i.e., by conducting a search, by utilizing a link, or otherwise logging-on to a pertinent web-site or web-page, etc.) and receiving feedback from the user based at least in part on the generated feedback ( para [0025], This may be done in an ongoing fashion, such that, if only a relatively small number of users are reacting to the delivery of the advertisement in a certain geographic area, or after the passage of some measurable time, or over a certain selected media, then the delivery of the advertisement could be modified or cancelled where it is being demonstrated to not be effective or be relatively less effective. Similarly positive user feedback information could lead to extending the target market 30, geographically, temporally or otherwise). It would be obvious to one of ordinary skill in the art to modify disclosure of Gonzalez to use the communication channel and feedback system as in Mandyam because more relevant results would be provided to the user.

Claims 4, 5, 7 and 21 lack an inventive step under PCT Article 33(3) as being obvious over Gonzalez in view of US 2005/0283473 A1 to Rouso et al (hereinafter 'Rouso').

Regarding claim 4, Gonzalez discloses a method in which expanding the query comprises expanding the search terms (col 2, in 50- 54, In the client file therefore the user could enter the company name .Oracle. or .Oracle Corporation. as its desired search terms, together with any additional search terms such as the stock symbol .ORCL.). Gonzalez fails to expressly disclose including at least misspellings, synonyms, sub-topics, antonyms, or a combination thereof.

However, Rouso does teach a method, in which expanding the query comprises expanding the search terms (para [0024], The AIDSA augments and expands a searcher's vocabulary by producing related keyword query terms that may be more suited to what the user is actually looking for) to include at least misspellings (para[0075], These related query terms 490 are provided and alternative spellings may be provided for the query terms as well as the common misspelling of those Words), synonyms, sub-topics (para [0059], In an alternative embodiment, the query may be comprised of metadata keywords in the web page or it may be based on just the title of the web site article.), antonyms, or a combination thereof ( para [0079], In alternative embodiments, hypernyms, hyponyms, antonyms, proximate coordinate terms, etc. are used as the basis of lookups in the related Word database to further expand identification of related Words. Upon expending their original keyword terms 465, that query 465 is combined with any alternative spellings 480 and/or partial Words 490 and provided to the data selector). It would have been obvious to one of ordinary skill in the art to add Rouso's method of expansion of queries comprising expanding the search terms to include at least misspellings, synonyms, sub-topics, antonyms, or a combination thereof to Gonzalez query expansion involving expanding the search terms because it would allow a thorough search to conducted and provide more accurate results.

Regarding claims 5 and 21, Gonzalez discloses the monitoring is performed to monitor for matches to a query(col 3,in 42-46 in operation, the illustrated embodiment described above allows the FIRST system to monitor and retrieve information from one or more predetermined resources in accordance with the operational flow depicted in FIG. 3 in (steps S30 through S38), but fails to disclose refining the search terms based at least in part on the executed query; and a refined query. However, Rouso does teach refining the search terms based at least in part on the executed query and a refined query (para [0066], in one embodiment, as the user changes emphasis values, the query is continually being reexecuted based on the varied emphasis values, and search results are changed and shown to the user interactively). It would have been obvious to one of ordinary skill in the art to add Rouso's method of re-executing the query based on the refinement made to the search terms to Gonzalez's method of monitoring matches of a query because it would help the user to be aware of updates to the information he has searched using further refinement of the query.

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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/US 14/44134

Supplemental Box

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-Continuation in Preceding Supplemental Box-

Regarding claim 7, Gonzalez fails to disclose a method, in which the query is a natural language query. However Rousso does teach a method, in which the query is a natural language query (para [0077]. Further, word order can help the determine the grammatical type of the word. For example, if the search query is .reviews that run cars with liquid fuel, then the word .run. would be interpreted to more likely be a verb as it is in the middle of the supplied query. In an example where the search is .the run that caused people to get very tired. the AIDA would interpret .run. top be a noun as it is towards the beginning of the query where the subject is typically specified. As such, word order can provide greater context and emphasis to provided queries), and further comprising translating the query to a system understood language. (para [0120], entries made into supplied fields in the Web form are tagged as having been entered into the particular fields, and parsed as such. The entered terms are then passed along with the field tags, which act to instruct the parser to generate queries directed to appropriate tables and/or fields. In one embodiment, the parser may generate queries in standard SQL by instantiating a search string with the proper join/select commands based on the tagged text entries, wherein the resulting command is provided over the bridge mechanism to the AIDSA as a query. Upon generating query results from the query, the results are passed over the bridge mechanism, and may be parsed for formatting and generation of new results Web page by the bridge mechanism. Such a new results Web page is then provided to the information server, which may supply it to the requesting Web browser). It would be obvious to one of ordinary skill in the art to modify Gonzalez to use a natural language query and translate the query to a system understood language as taught by Rousso's use of natural language query for searching and translating the query to a system understood language by using a parser which may generate queries in standard SQL because it will help the user to use natural languages while searching to make searching easier and convenient.

Claims 13, 14 and 16 lack an inventive step under PCT Article 33(3) as being obvious over Gonzalez in view of Mandyam and further in view of Rousso.

Regarding claim 13, Gonzalez discloses an apparatus in which expanding the query comprises expanding the search terms (col 2, in 50-54. In the client file therefore the user could enter the company name .Oracle. or .Oracle Corporation. as its desired search terms, together with any additional search terms such as the stock symbol .ORCL.). Gonzalez and Mandyam fail to expressly disclose including at least misspellings, synonyms, sub-topics, antonyms, or a combination.

However, Rousso does teach an apparatus, in which expanding the query comprises expanding the search terms (para [0024]. The AIDSA augments and expands a searcher's vocabulary by producing related keyword query terms that may be more suited to what the user is actually looking for) to include at least misspellings (para[0075]. These related query terms 490 are provided and alternative spellings may be provided for the query terms as well as the common misspelling of those Words), synonyms, sub-topics (para [0059]. In an alternative embodiment, the query may be comprised of metadata keywords in the web page or it may be based on just the title of the web site article.), antonyms, or a combination thereof (para [0079]. In alternative embodiments, hypernyms, hyponyms, antonyms, proximate coordinate terms, etc. are used as the basis of lookups in the related Word database to further expand identification of related Words. Upon expanding their original keyword terms 465, that query 465 is combined with any alternative spellings 480 and/or partial Words 490 and provided to the data selector). It would have been obvious to one of ordinary skill in the art to add Rousso's expansion of queries comprising expanding the search terms to include at least misspellings, synonyms, sub-topics, antonyms, or a combination thereof to Gonzalez and Mandyam because query expansion involving expanding the search terms would conduct a thorough search and provide more accurate results.

Regarding claim 14, Gonzalez discloses the monitoring is performed to monitor for matches to a query(col 3, in 42-46 In operation, the illustrated embodiment described above allows the FIRST system to monitor and retrieve information from one or more predetermined resources in accordance with the operational flow depicted in FIG. 3 in (steps S30 through S38). Gonzalez and Mandyam fail to disclose refining the search terms based at least in part on the executed query; and a refined query. However, Rousso does teach refining the search terms based at least in part on the executed query and a refined query (para [0066]. In one embodiment, as the user changes emphasis values, the query is continually being reexecuted based on the varied emphasis values, and search results are changed and shown to the user interactively). It would have been obvious to one of ordinary skill in the art to add Rousso's method of re-executing the query based on the refinement made to the search terms to Gonzalez and Mandyam method of monitoring matches of a query because it would help the user to be aware of updates to the information he has searched using further refinement of the query.

Regarding claim 16, Gonzalez in combination with Mandyam fail to disclose an apparatus, in which the query is a natural language query and in which the at least one processor is further configured to translate the query to a system understood language.

However Rousso does teach an apparatus, in which the query is a natural language query (para [0077]. Further, word order can help the determine the grammatical type of the word. For example, if the search query is .reviews that run cars with liquid fuel, then the word .run. would be interpreted to more likely be a verb as it is in the middle of the supplied query. In an example where the search is .the run that caused people to get very tired. the AIDA would interpret .run. top be a noun as it is towards the beginning of the query where the subject is typically specified. As such, word order can provide greater context and emphasis to provided queries), and in which the at least one processor is further configured to translate the query to a system understood language(para [0120], entries made into supplied fields in the Web form are tagged as having been entered into the particular fields, and parsed as such. The entered terms are then passed along with the field tags, which act to instruct the parser to generate queries directed to appropriate tables and/or fields. In one embodiment, the parser may generate queries in standard SQL by instantiating a search string with the proper join/select commands based on the tagged text entries, wherein the resulting command is provided over the bridge mechanism to the AIDSA as a query. Upon generating query results from the query, the results are passed over the bridge mechanism, and may be parsed for formatting and generation of new results Web page by the bridge mechanism. Such a new results Web page is then provided to the information server, which may supply it to the requesting Web browser). It would have been obvious to one of ordinary skill in the art to modify Gonzalez in combination with Mandyam to use a natural language query and translate the query to a system understood language as taught by Rousso's use of natural language query for searching and translating the query to a system understood language by using a parser which may generate queries in standard SQL because it will help the user to use natural languages while searching to make searching easier and convenient.

Claims 1-21 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

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| Electronic Acknowledgement Receipt   |                                    |
| EFS ID:                              | 22503910                           |
| Application Number:                  | 13928313                           |
| International Application Number:    |                                    |
| Confirmation Number:                 | 2955                               |
| Title of Invention:                  | REAL-TIME AND ADAPTIVE DATA MINING |
| First Named Inventor/Applicant Name: | Sharon Gill CHADHA                 |
| Customer Number:                     | 98275                              |
| Filer:                               | Puya Partow-Navid/Anna Tounian     |
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| Application Type:                    | Utility under 35 USC 111(a)        |

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| Document Number        | Document Description                               | File Name                          | File Size(Bytes)/ Message Digest                   | Multi Part /.zip | Pages (if appl.) |
| 1                      | Information Disclosure Statement (IDS) Form (SB08) | 79531-2_IDS_AsFiled_01June2015.pdf | 1524953<br>573a838f1e8ccc36e53af97ef1886d1dbf72d8c | no               | 4                |
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| <b>Warnings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                       |                                      |                                                               |    |    |
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| <b>Information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |                                      |                                                               |    |    |
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| <p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b><br/>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b><br/>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b><br/>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p> |                       |                                      |                                                               |    |    |

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

|                                                           |                        |
|-----------------------------------------------------------|------------------------|
| In re Patent Application of:<br>Sharon Gill CHADHA et al. | Customer No.: 98275    |
| Application No.: 13/928,313                               | Art Unit: 2167         |
| Filed: June 26, 2013                                      | Conf. No.: 2955        |
| For: REAL-TIME AND ADAPTIVE<br>DATA MINING                | Examiner: Michael PHAM |

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REPLY UNDER 37 C.F.R. 1.111**

Dear Sir:

In response to the Office Action dated February 3, 2014, reconsideration and further examination of the above-identified application are respectfully requested based on the following:

**Amendments to the Claims** are reflected in the listing of claims, which begin on page 2 of this paper.

**Remarks** begin on page 7 of this paper.

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A method of analyzing data, comprising:  
generating, via a first user, a query based at least in part on a topic of interest;  
expanding search terms of the query;  
executing the query on a plurality of data sources; [[and]]  
selecting at least one data source from the plurality of data sources, the at least one data source being selected when results of the query are greater than or equal to an accuracy thresholds;  
monitoring, based on a set schedule, the at least one ~~specific~~ data source to extract data from the at least one data source when at least an update to stored data that matches the query, newly added data that matches the query, or a combination thereof~~selected from the plurality of data sources for matches to the query;~~ and  
establishing a communication channel with a second user based at least in part on the data extracted from the at least one monitored data source.
2. (Currently Amended) The method of claim 1, further comprising  
~~extracting data from the at least one monitored specific data source;~~  
analyzing the extracted data;  
~~establishing a communication channel with a user based at least in part on the analyzed data;~~ and  
receiving feedback from the user based at least in part on the established communication channel~~generated feedback.~~
3. (Original) The method of claim 2, further comprising visualizing at least the extracted data, the analyzed data, or a combination thereof.

4. (Original) The method of claim 1, in which expanding the query comprises expanding the search terms to include at least misspellings, synonyms, sub-topics, antonyms, or a combination thereof.

5. (Original) The method of claim 1, further comprising:  
refining the search terms based at least in part on the executed query, and in which the monitoring is performed to monitor for matches to a refined query.

6. (Original) The method of claim 1, in which the plurality of data sources include open-source data sources that are publically available and closed-source data sources that are not publically accessible.

7. (Original) The method of claim 1, in which the query is a natural language query, and  
further comprising translating the query to a system understood language.

8. (Original) The method of claim 1, in which the plurality of data sources are pre-defined.

9. (Original) The method of claim 1, in which the monitoring comprises deploying extractors to each of specific data source, a number of extractors being dynamic based at least in part on a traffic volume of each specific data source.

10. (Currently Amended) An apparatus configured to analyze data, the apparatus comprising:

a memory unit; and

at least one processor coupled to the memory unit, in which the at least one processor is configured:

to generate, via a first user, a query based at least in part on a topic of interest;

to expand search terms of the query;

to execute the query on a plurality of data sources; [[and]]

to select at least one data source from the plurality of data sources, the at least one data source being selected when results of the query are greater than or equal to an accuracy thresholds;

to monitor, based on a set schedule, the at least one ~~specific~~ data source to extract data from the at least one data source when at least an update to stored data that matches the query, newly added data that matches the query, or a combination thereof selected from the plurality of data sources for matches to the query; and

to establish a communication channel with a second user based at least in part on the data extracted from the at least one monitored data source.

11. (Currently Amended) The apparatus of claim 10, in which the at least one processor is further configured:

~~to extract data from the at least one monitored specific data source;~~

to analyze the extracted data;

~~to establish a communication channel with a user based at least in part on the analyzed data; and~~

to receive feedback from the user based at least in part on the established communication channel-generated feedback.

12. (Original) The apparatus of claim 11, in which the at least one processor is further configured to visualize at least the extracted data, the analyzed data, or a combination thereof.

13. (Original) The apparatus of claim 11, in which the at least one processor is further configured to expand the search terms to include at least misspelling, synonyms, sub-topics, antonyms, or a combination thereof.

14. (Original) The apparatus of claim 11, in which the at least one processor is further configured:

to refine the search terms based at least in part on the executed query, and

to monitor for matches to a refined query.

15. (Original) The apparatus of claim 11, in which the plurality of data sources include open-source data sources that are publically available and closed-source data sources that at not publically accessible.

16. (Original) The apparatus of claim 11, in which the query is a natural language query, and  
in which the at least one processor is further configured to translate the query to a system understood language.

17. (Original) The apparatus of claim 11, in which the plurality of data sources are pre-defined.

18. (Original) The apparatus of claim 11, in which the at least one processor is further configured to deploy extractors to each of specific data source, a number of extractors being dynamic based at least in part on a traffic volume of each specific data source.

19. (Currently Amended) A computer program product for data analysis, the computer program product comprising:  
a non-transitory computer-readable medium having program code recorded thereon, the program code comprising:

program code to generate, via a first user, a query based at least in part on a topic of interest;

program code to expand search terms of the query;

program code to execute the query on a plurality of data sources; [[and]]

program code to select at least one data source from the plurality of data sources, the at least one data source being selected when results of the query are greater than or equal to an accuracy thresholds;

program code to monitor, based on a set schedule, the at least one-specific data source to extract data from the at least one data source when at least an update to stored data that matches the query, newly added data that matches the query, or a combination thereof selected from the plurality of data sources for matches to the query; and

program code to establish a communication channel with a second user based at least in part on the data extracted from the at least one monitored data source.

20. (Currently Amended) The computer program of claim 19, further comprising:  
~~program code to extract data from the at least one monitored specific data source;~~  
program code to analyze the extracted data;  
~~program code to establish a communication channel with a user based at least in part on the analyzed data; and~~  
program code to receive feedback from the user based at least in part on the established communication channel-generated feedback.

21. (Original) The computer program of claim 19, further comprising:  
program code to refine the search terms based at least in part on the executed query, and  
program code to monitor for matches to a refined query.

**REMARKS**

In response to the Office Action dated February 3, 2015, the Office Action's claim rejections have been considered. Claims 1-21 are pending. No new matter is added. Support for the amendments may be found in the specification as originally filed. Applicants respectfully traverse all rejections of all pending claims and earnestly solicit allowance of these claims.

***Telephonic Interview Summary***

Applicants express their appreciation to the Examiner for discussing the present application on April 13, 2015. During the interview, applicants' representative discussed the present amendments in view of the cited references. The Examiner stated that the present amendments appear to overcome the current rejections. Still, the Examiner stated that a further search is necessary.

***Claim Rejections - 35 USC § 112***

Claims 2, 11, and 20 are rejected under 35 U.S.C. § 112, second paragraph, because the limitation "the generated feedback" has insufficient antecedent basis.

Applicants have amended claim 2 to recite "the established communication channel." In view of the amendments to claims 2, 11, and 20, applicants respectfully request for the withdrawal of the rejections to claims 2, 11, and 20 under 35 U.S.C. § 112.

***Claim Rejections - 35 USC § 102***

Claims 1-21 are rejected under pre-AIA 35 U.S.C. § 102(e) as allegedly being anticipated by Myaeng at al. (U.S. Patent Application Publication No. 2011/0047161). Applicants respectfully traverse these rejections and reconsideration and withdrawal of these rejections are respectfully requested.

As amended, claim 1 recites, in part, monitoring, based on a set schedule, the at least one data source to extract data from the at least one data source when at least an update to stored data that matches the query, newly added data that matches the query, or a combination thereof, and

establishing a communication channel with a second user based at least in part on the data extracted from the at least one monitored data source.

Pages 3-4 of the Office Action states that paragraph 52 and FIGURE 1 of Myaeng disclose monitoring at least one specific data source for matches to a query. Applicants provide the following remarks.

As stated on page 3 of the Office Action, paragraph 52 of Myaeng discloses that the user determines whether a document is relevant to a query. In contrast, claim 1 recites “monitoring, based on a schedule, the at least one data source to extract data from the at least one data source when at least an update to stored data that matches the query, newly added data that matches the query, or a combination thereof.”

As discussed during the interview, Myaeng is only directed to determining if a document is relevant and is silent on monitoring the data source to extract data from the data source when new data or updated data matches the query. Therefore, applicants submit that Myaeng fails to teach or suggest the “monitoring, based on a set schedule, the at least one data source to extract data from the at least one data source when at least an update to stored data that matches the query, newly added data that matches the query, or a combination thereof,” as recited in claim 1.

Furthermore, as amended, claim 1 incorporates elements similar to those recited in original claim 2. Specifically, as amended, claim 1 recites, in part, establishing a communication channel with a second user based at least in part on the data extracted from the at least one monitored data source.

For claim 2, page 4 of the Office Action states that paragraph 58 of Myaeng discloses establishing a communication channel with a user based at least in part on the analyzed data. Applicants provide the following remarks.

The cited portion of Myaeng is directed to generating a query. In contrast, the cited portion of claim 1 is directed to establishing a communication channel with an second user, the second user is different from the first user that generated the query. As discussed during the interview, establishing a communication channel with a user, as recited in claim 1, is patentably distinguishable from classifying a query, as discussed in paragraph 58 of Myaeng. Therefore,

because Myaeng is silent on establishing a communication channel with a user based at least in part on the data extracted from the at least one monitored data source, applicants submit that Myaeng fails to teach or suggest the cited elements of claim 1.

Finally, applicants have reviewed Myaeng and have found no discussion for “selecting at least one data source from the plurality of data sources, the at least one data source being selected when results of the query are greater than or equal to an accuracy thresholds,” as recited in claim 1. Therefore, because Myaeng is silent on the cited element of claim 1, applicants submit that Myaeng fails to teach or suggest the cited element of claim 1.

Applicants have demonstrated above that Myaeng fails to teach or suggest various elements recited in claim 1. Therefore, claim 1 is believed to be allowable over Myaeng. Additionally, the other independent claims recited elements similar to those discussed for claim 1 and are believed to be allowable for reasons similar to those discussed for claim 1. Finally, the rejected dependent claims are allowable at least by virtue of their dependence on an allowable base claim, in addition to reasons related to their own recitations.

### **CONCLUSION**

The absence of a reply to a specific rejection, issue, or comment does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments above may not be exhaustive, there may be other reasons for patentability of any or all claims that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment or cancellation of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment or cancellation.

In light of the amendments and remarks, applicants submit that the claims are in condition for allowance and respectfully request a notice to this effect. Should the Examiner have any questions, please call the undersigned at the phone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is submitted. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 50-2291 and please credit any excess fees to such deposit account.

Dated: May 4, 2015

Respectfully submitted,

By: /Puya Partow-Navid/  
Puya Partow-Navid, Reg. No. 59,657  
Attorney for Applicants

Seyfarth Shaw LLP  
2029 Century Park East, Suite 3500  
Los Angeles, CA 90067-3021  
Direct Dial (310) 201-1550  
Facsimile (310) 201-5219

|                                      |                                    |
|--------------------------------------|------------------------------------|
| Electronic Acknowledgement Receipt   |                                    |
| EFS ID:                              | 22252155                           |
| Application Number:                  | 13928313                           |
| International Application Number:    |                                    |
| Confirmation Number:                 | 2955                               |
| Title of Invention:                  | REAL-TIME AND ADAPTIVE DATA MINING |
| First Named Inventor/Applicant Name: | Sharon Gill CHADHA                 |
| Customer Number:                     | 98275                              |
| Filer:                               | Puya Partow-Navid/Anna Tounian     |
| Filer Authorized By:                 | Puya Partow-Navid                  |
| Attorney Docket Number:              | 79531-000002                       |
| Receipt Date:                        | 04-MAY-2015                        |
| Filing Date:                         | 26-JUN-2013                        |
| Time Stamp:                          | 22:38:56                           |
| Application Type:                    | Utility under 35 USC 111(a)        |

|                        |                      |                                      |                                                    |                  |                  |
|------------------------|----------------------|--------------------------------------|----------------------------------------------------|------------------|------------------|
| Payment information:   |                      |                                      |                                                    |                  |                  |
| Submitted with Payment |                      |                                      | no                                                 |                  |                  |
| File Listing:          |                      |                                      |                                                    |                  |                  |
| Document Number        | Document Description | File Name                            | File Size(Bytes)/ Message Digest                   | Multi Part /.zip | Pages (if appl.) |
| 1                      |                      | 79561-2_Reply_AsFiled_04May 2015.pdf | 113523<br>3ac4073ef93436a0cf0e8b6ef5b256dd06f57279 | yes              | 10               |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Multipart Description/PDF files in .zip description   |        |     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------|-----|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Document Description                                  | Start  | End |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Amendment/Req. Reconsideration-After Non-Final Reject | 1      | 1   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Claims                                                | 2      | 6   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Applicant Arguments/Remarks Made in an Amendment      | 7      | 10  |
| Warnings:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                       |        |     |
| Information:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                       |        |     |
| Total Files Size (in bytes):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                       | 113523 |     |
| <p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b><br/>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b><br/>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b><br/>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p> |                                                       |        |     |

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

|                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                          |                                                                                                                                                                                                                               |       |                                    |                                            |                 |                           |                     |                                       |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------|--------------------------------------------|-----------------|---------------------------|---------------------|---------------------------------------|--|
| <b>PATENT APPLICATION FEE DETERMINATION RECORD</b><br>Substitute for Form PTO-875                                                                                                                                                                                                                                                                                                                                 |                                                                                          |                                                                                                                                                                                                                               |       |                                    | Application or Docket Number<br>13/928,313 |                 | Filing Date<br>06/26/2013 |                     | <input type="checkbox"/> To be Mailed |  |
| ENTITY: <input type="checkbox"/> LARGE <input checked="" type="checkbox"/> SMALL <input type="checkbox"/> MICRO                                                                                                                                                                                                                                                                                                   |                                                                                          |                                                                                                                                                                                                                               |       |                                    |                                            |                 |                           |                     |                                       |  |
| <b>APPLICATION AS FILED – PART I</b>                                                                                                                                                                                                                                                                                                                                                                              |                                                                                          |                                                                                                                                                                                                                               |       |                                    |                                            |                 |                           |                     |                                       |  |
| (Column 1)                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                          | (Column 2)                                                                                                                                                                                                                    |       |                                    |                                            |                 |                           |                     |                                       |  |
| FOR                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                          | NUMBER FILED                                                                                                                                                                                                                  |       | NUMBER EXTRA                       |                                            | RATE (\$)       |                           | FEE (\$)            |                                       |  |
| <input type="checkbox"/> BASIC FEE<br>(37 CFR 1.16(a), (b), or (c))                                                                                                                                                                                                                                                                                                                                               |                                                                                          | N/A                                                                                                                                                                                                                           |       | N/A                                |                                            | N/A             |                           |                     |                                       |  |
| <input type="checkbox"/> SEARCH FEE<br>(37 CFR 1.16(k), (i), or (m))                                                                                                                                                                                                                                                                                                                                              |                                                                                          | N/A                                                                                                                                                                                                                           |       | N/A                                |                                            | N/A             |                           |                     |                                       |  |
| <input type="checkbox"/> EXAMINATION FEE<br>(37 CFR 1.16(o), (p), or (q))                                                                                                                                                                                                                                                                                                                                         |                                                                                          | N/A                                                                                                                                                                                                                           |       | N/A                                |                                            | N/A             |                           |                     |                                       |  |
| TOTAL CLAIMS<br>(37 CFR 1.16(i))                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                          | minus 20 =                                                                                                                                                                                                                    |       | *                                  |                                            | X \$ =          |                           |                     |                                       |  |
| INDEPENDENT CLAIMS<br>(37 CFR 1.16(h))                                                                                                                                                                                                                                                                                                                                                                            |                                                                                          | minus 3 =                                                                                                                                                                                                                     |       | *                                  |                                            | X \$ =          |                           |                     |                                       |  |
| <input type="checkbox"/> APPLICATION SIZE FEE<br>(37 CFR 1.16(s))                                                                                                                                                                                                                                                                                                                                                 |                                                                                          | If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). |       |                                    |                                            |                 |                           |                     |                                       |  |
| <input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))                                                                                                                                                                                                                                                                                                                                        |                                                                                          |                                                                                                                                                                                                                               |       |                                    |                                            |                 |                           |                     |                                       |  |
| * If the difference in column 1 is less than zero, enter "0" in column 2.                                                                                                                                                                                                                                                                                                                                         |                                                                                          |                                                                                                                                                                                                                               |       |                                    |                                            | TOTAL           |                           |                     |                                       |  |
| <b>APPLICATION AS AMENDED – PART II</b>                                                                                                                                                                                                                                                                                                                                                                           |                                                                                          |                                                                                                                                                                                                                               |       |                                    |                                            |                 |                           |                     |                                       |  |
| (Column 1)                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                          | (Column 2)                                                                                                                                                                                                                    |       | (Column 3)                         |                                            |                 |                           |                     |                                       |  |
| AMENDMENT                                                                                                                                                                                                                                                                                                                                                                                                         | 05/04/2015                                                                               | CLAIMS REMAINING AFTER AMENDMENT                                                                                                                                                                                              |       | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA                              | RATE (\$)       |                           | ADDITIONAL FEE (\$) |                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                   | Total (37 CFR 1.16(i))                                                                   | * 21                                                                                                                                                                                                                          | Minus | ** 21                              | = 0                                        | x \$40 =        |                           | 0                   |                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                   | Independent (37 CFR 1.16(h))                                                             | * 3                                                                                                                                                                                                                           | Minus | ***3                               | = 0                                        | x \$210 =       |                           | 0                   |                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))                           |                                                                                                                                                                                                                               |       |                                    |                                            |                 |                           |                     |                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) |                                                                                                                                                                                                                               |       |                                    |                                            |                 |                           |                     |                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                          |                                                                                                                                                                                                                               |       |                                    |                                            | TOTAL ADD'L FEE |                           | 0                   |                                       |  |
| (Column 1)                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                          | (Column 2)                                                                                                                                                                                                                    |       | (Column 3)                         |                                            |                 |                           |                     |                                       |  |
| AMENDMENT                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                          | CLAIMS REMAINING AFTER AMENDMENT                                                                                                                                                                                              |       | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA                              | RATE (\$)       |                           | ADDITIONAL FEE (\$) |                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                   | Total (37 CFR 1.16(i))                                                                   | *                                                                                                                                                                                                                             | Minus | **                                 | =                                          | X \$ =          |                           |                     |                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                   | Independent (37 CFR 1.16(h))                                                             | *                                                                                                                                                                                                                             | Minus | ***                                | =                                          | X \$ =          |                           |                     |                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))                           |                                                                                                                                                                                                                               |       |                                    |                                            |                 |                           |                     |                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) |                                                                                                                                                                                                                               |       |                                    |                                            |                 |                           |                     |                                       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                          |                                                                                                                                                                                                                               |       |                                    |                                            | TOTAL ADD'L FEE |                           |                     |                                       |  |
| * If the entry in column 1 is less than the entry in column 2, write "0" in column 3.<br>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".<br>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".<br>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1. |                                                                                          |                                                                                                                                                                                                                               |       |                                    |                                            |                 |                           |                     |                                       |  |

LIE  
/DORIS KING/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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| APPLICATION NO.                                                                       | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 13/928,313                                                                            | 06/26/2013  | Sharon Gill CHADHA   | 79531-000002        | 2955             |
| 98275                                                                                 | 7590        | 04/17/2015           | EXAMINER            |                  |
| Seyfarth Shaw LLP<br>2029 Century Park East, Suite 3500<br>Los Angeles, CA 90067-3063 |             |                      | PHAM, MICHAEL       |                  |
|                                                                                       |             |                      | ART UNIT            | PAPER NUMBER     |
|                                                                                       |             |                      | 2167                |                  |
|                                                                                       |             |                      | NOTIFICATION DATE   | DELIVERY MODE    |
|                                                                                       |             |                      | 04/17/2015          | ELECTRONIC       |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

[laxipdocket@seyfarth.com](mailto:laxipdocket@seyfarth.com)

|                                              |                                      |                                      |  |
|----------------------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Applicant-Initiated Interview Summary</b> | <b>Application No.</b><br>13/928,313 | <b>Applicant(s)</b><br>CHADHA ET AL. |  |
|                                              | <b>Examiner</b><br>MICHAEL PHAM      | <b>Art Unit</b><br>2167              |  |

All participants (applicant, applicant's representative, PTO personnel):

(1) MICHAEL PHAM. (3)Puya Partow-Navid (reg. 59657).

(2) \_\_\_\_\_. (4)\_\_\_\_\_.

Date of Interview: 13 April 2015.

Type:    ☒ Telephonic    ☐ Video Conference  
         ☐ Personal [copy given to:    ☐ applicant    ☐ applicant's representative]

Exhibit shown or demonstration conducted:    ☐ Yes    ☐ No.  
If Yes, brief description: \_\_\_\_\_.

Issues Discussed    ☐101    ☐112    ☐102    ☐103    ☒Others  
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: proposed.

Identification of prior art discussed: Myaeng.

Substance of Interview  
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Applicant's representative discussed in brief the application with respect to figure 1. Applicant's representative discussed the proposed amendments as provided in the proposed remarks. It was suggested to amend the claim to indicate that it's a set schedule. It was indicated that the amendments discussed would appear to overcome the cited portions of the references. While proposed amendments were discussed, no agreement was yet reached. Applicant's are advised to file a formal response for further consideration and/or search .

**Applicant recordation instructions:** The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

|                                           |  |
|-------------------------------------------|--|
| /MICHAEL PHAM/<br>Examiner, Art Unit 2167 |  |
|-------------------------------------------|--|

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

#### Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.



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**Please deliver to Examiner Michael Pham**

### Facsimile Transmission

Date: April 8, 2015

| RECIPIENT                     | COMPANY                          | PHONE NO.    | FAX NO.             |
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| Examiner: <b>Michael Pham</b> | U.S. Patent and Trademark Office | 571-272-3924 | <b>571-273-3924</b> |

**FROM:** Puya Partow-Navid, Esq.

**PHONE:** 310 201-1550

**RE:** Agenda

REPLY FAX NO.: 310 201-5219

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#### MESSAGE:

**RE: APPLICATION NO. 13/928,313**

Attached is an Agenda for the Examiner Interview set forth below.

Interview - April 13, 2015 at 1:00 p.m. (ET)

THE INFORMATION CONTAINED IN THIS FACSIMILE IS CONFIDENTIAL AND MAY ALSO CONTAIN PRIVILEGED ATTORNEY-CLIENT INFORMATION OR WORK PRODUCT. THE INFORMATION IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHOM IT IS ADDRESSED. IF YOU ARE NOT THE INTENDED RECIPIENT OR THE EMPLOYEE OR AGENT RESPONSIBLE TO DELIVER IT TO THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY USE, DISSEMINATION, DISTRIBUTION OR COPYING OF THIS COMMUNICATION IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THE FACSIMILE IN ERROR, PLEASE IMMEDIATELY NOTIFY US BY TELEPHONE, AND RETURN THE ORIGINAL MESSAGE TO US AT THE ADDRESS ABOVE VIA THE U.S. POSTAL SERVICE. THANK YOU.

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15649067v.1

PATENT  
Docket No.: 79531-2

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

|                                                           |                        |
|-----------------------------------------------------------|------------------------|
| In re Patent Application of:<br>Sharon Gill Chadha et al. | Customer No.: 98275    |
| Application No.: 13/928,313                               | Art Unit: 2167         |
| Filed: June 26, 2013                                      | Confirmation No.: 2955 |
| For: REAL-TIME AND ADAPTIVE DATA<br>MINING                | Examiner: MICHAEL PHAM |

Dear Sir:

The following is an agenda for the Examiner interview scheduled for April 13 at 1 PM  
(Eastern).

**Listing of Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of analyzing data, comprising:  
generating, via a first user, a query based at least in part on a topic of interest;  
expanding, via the first user, search terms of the query;  
executing, via the first user, the query on a plurality of data sources; ~~and~~  
selecting, via the first user, at least one data source from the plurality of data sources, the  
at least one data source being selected when results of the query are greater than or equal to an  
accuracy thresholds;  
monitoring, via the first user based on a schedule, the at least one specific data source to  
extract data from the at least one data source when at least an update to stored data that matches  
the query, newly added data that matches the query, or a combination thereof selected from the  
plurality of data sources for matches to the query; and  
establishing, via the first user, a communication channel with a second user based at least  
in part on the data extracted from the at least one monitored data source.
2. (currently amended) The method of claim 1, further comprising  
~~extracting data from the at least one monitored specific data source;~~  
analyzing the extracted data;  
~~establishing a communication channel with a user based at least in part on the analyzed~~  
~~data; and~~  
receiving feedback from the user based at least in part on the established communication  
channel generated feedback.

**[the other claims will be amended similar to claims 1 and 2]**

3. The method of claim 2, further comprising visualizing at least the extracted data, the analyzed data, or a combination thereof.

4. The method of claim 1, in which expanding the query comprises expanding the search terms to include at least misspellings, synonyms, sub-topics, antonyms, or a combination thereof.

5. The method of claim 1, further comprising:  
refining the search terms based at least in part on the executed query, and in which the monitoring is performed to monitor for matches to a refined query.

6. The method of claim 1, in which the plurality of data sources include open-source data sources that are publically available and closed-source data sources that are not publically accessible.

7. The method of claim 1, in which the query is a natural language query, and further comprising translating the query to a system understood language.

8. The method of claim 1, in which the plurality of data sources are pre-defined.

9. The method of claim 1, in which the monitoring comprises deploying extractors to each of specific data source, a number of extractors being dynamic based at least in part on a traffic volume of each specific data source.

10. An apparatus configured to analyze data, the apparatus comprising:  
a memory unit; and  
at least one processor coupled to the memory unit, in which the at least one processor is configured:

to generate a query based at least in part on a topic of interest;  
to expand search terms of the query;  
to execute the query on a plurality of data sources; and  
to monitor at least one specific data source selected from the plurality of data sources for matches to the query.

11. The apparatus of claim 10, in which the at least one processor is further configured:
- to extract data from the at least one monitored specific data source;
  - to analyze the extracted data;
  - to establish a communication channel with a user based at least in part on the analyzed data; and
  - to receive feedback from the user based at least in part on the generated feedback.
12. The apparatus of claim 11, in which the at least one processor is further configured to visualize at least the extracted data, the analyzed data, or a combination thereof.
13. The apparatus of claim 11, in which the at least one processor is further configured to expand the search terms to include at least misspelling, synonyms, sub-topics, antonyms, or a combination thereof.
14. The apparatus of claim 11, in which the at least one processor is further configured:
- to refine the search terms based at least in part on the executed query, and
  - to monitor for matches to a refined query.
15. The apparatus of claim 11, in which the plurality of data sources include open-source data sources that are publically available and closed-source data sources that are not publically accessible.
16. The apparatus of claim 11, in which the query is a natural language query, and in which the at least one processor is further configured to translate the query to a system understood language.
17. The apparatus of claim 11, in which the plurality of data sources are pre-defined.

18. The apparatus of claim 11, in which the at least one processor is further configured to deploy extractors to each of specific data source, a number of extractors being dynamic based at least in part on a traffic volume of each specific data source.

19. A computer program product for data analysis, the computer program product comprising:

a non-transitory computer-readable medium having program code recorded thereon, the program code comprising:

- program code to generate a query based at least in part on a topic of interest;
- program code to expand search terms of the query;
- program code to execute the query on a plurality of data sources; and
- program code to monitor at least one specific data source selected from the plurality of data sources for matches to the query.

20. The computer program of claim 19, further comprising:

- program code to extract data from the at least one monitored specific data source;
- program code to analyze the extracted data;
- program code to establish a communication channel with a user based at least in part on the analyzed data; and
- program code to receive feedback from the user based at least in part on the generated feedback.

21. The computer program of claim 19, further comprising:

- program code to refine the search terms based at least in part on the executed query, and
- program code to monitor for matches to a refined query.

**REMARKS*****Claim Rejections - 35 USC § 112)***

Claims 2, 11, and 20 are rejected because the limitation “the generated feedback” has insufficient antecedent basis. Applicants have amended claim 2 to recite “the established communication channel.” Applicants believe the rejections of claims 2, 11, and 20 should be withdrawn in view of the cited amendment.

***Claim Rejections - 35 USC § 102***

Claims 1-21 are rejected under pre-AIA 35 U.S.C. § 102(3) as allegedly being anticipated by Myaeng et al. (U.S. Patent Application Publication No. 2011/0047161). Applicants respectfully traverse these rejections and reconsideration and withdrawal of these rejections are respectfully requested.

As amended, claim 1 recites:

generating, via a first user, a query based at least in part on a topic of interest;

expanding, via the first user, search terms of the query;

executing, via the first user, the query on a plurality of data sources;

selecting, via the first user, at least one data source from the plurality of data sources, the at least one data source being selected when results of the query are greater than or equal to an accuracy thresholds;

monitoring, via the first user based on a schedule, the at least one data source to extract data from the at least one data source when at least an update to stored data that matches the query, newly added data that matches the query, or a combination thereof; and

establishing, via the first user, a communication channel with a second user based at least in part on the data extracted from the at least one monitored data source.

Pages 3-4 of the Office Action states that paragraph 52 and FIGURE 1 of Myaeng disclose monitoring at least one specific data source for matches to a query. Applicants provide the following remarks.

As stated on page 3 of the Office Action, paragraph 52 of Myaeng discloses that the user determines whether a document is relevant to a query. In contrast, claim 1 recites “monitoring, via the first user based on a schedule, the at least one data source to extract data from the at least one data source when at least an update to stored data that matches the query, newly added data that matches the query, or a combination thereof.”

That is, the claimed monitoring is performed based on a schedule, such as real-time, once a day, once an hour, etc... The monitoring determines whether any new data or updated data matches the query. Furthermore, the data is extracted if the new/updated data matches the query.

Accordingly, because Myaeng is only directed to determining if a document is relevant and is silent on monitoring the data source to extract data from the data source when new data or updated data matches the query, applicants submit that Myaeng fails to teach or suggest the cited elements of claim 1.

Furthermore, as amended, claim 1 incorporates elements similar to those recited in original claim 2. Specifically, as amended, claim 1 recites, in part, establishing, via the first user, a communication channel with a second user based at least in part on the data extracted from the at least one monitored data source.

For claim 2, page 4 of the Office Action states that paragraph 58 of Myaeng discloses establishing a communication channel with a user based at least in part on the analyzed data. Applicants provide the following remarks.

The cited portion of Myaeng is directed to generating a query. In contrast, the cited portion of claim 1 is directed to establishing a communication channel between two users. Applicants submit that establishing a communication channel between two users, as recited in claim 1, is patentably distinguishable from classifying a query, as discussed in paragraph 58 of Myaeng. Therefore, because Myaeng is silent on establishing a communication channel between two users based at least in part on the data extracted from the at least one monitored data source, applicants submit that Myaeng fails to teach or suggest the cited elements of claim 1.

Applicants would like to discuss the amendments to the claims and the remarks provided above.

### CONCLUSION

The absence of a reply to a specific rejection, issue, or comment does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments above may not be exhaustive, there may be other reasons for patentability of any or all claims that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment or cancellation of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment or cancellation.

In light of the amendments and remarks, applicants submit that the claims are in condition for allowance and respectfully request a notice to this effect. Should the Examiner have any questions, please call the undersigned at the phone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is submitted. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 50-2291 and please credit any excess fees to such deposit account.

Dated: April 8, 2015

Respectfully submitted,

By: \_\_\_\_\_  
Puya Partow-Navid, Reg. No. 59,657  
Attorney for Applicants



# UNITED STATES PATENT AND TRADEMARK OFFICE

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|                                                                                       |             |                      |                           |                  |
|---------------------------------------------------------------------------------------|-------------|----------------------|---------------------------|------------------|
| APPLICATION NO.                                                                       | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.       | CONFIRMATION NO. |
| 13/928,313                                                                            | 06/26/2013  | Sharon Gill CHADHA   | 79531-000002              | 2955             |
| 98275                                                                                 | 7590        | 02/03/2015           |                           |                  |
| Seyfarth Shaw LLP<br>2029 Century Park East, Suite 3500<br>Los Angeles, CA 90067-3063 |             |                      | EXAMINER<br>PHAM, MICHAEL |                  |
|                                                                                       |             |                      | ART UNIT                  | PAPER NUMBER     |
|                                                                                       |             |                      | 2167                      |                  |
|                                                                                       |             |                      | NOTIFICATION DATE         | DELIVERY MODE    |
|                                                                                       |             |                      | 02/03/2015                | ELECTRONIC       |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|                              |                                      |                                      |                                                  |
|------------------------------|--------------------------------------|--------------------------------------|--------------------------------------------------|
| <b>Office Action Summary</b> | <b>Application No.</b><br>13/928,313 | <b>Applicant(s)</b><br>CHADHA ET AL. |                                                  |
|                              | <b>Examiner</b><br>MICHAEL PHAM      | <b>Art Unit</b><br>2167              | <b>AIA (First Inventor to File) Status</b><br>No |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 6/26/2013.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims\*

- 5) ☒ Claim(s) 1-21 is/are pending in the application.  
5a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1-21 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

\* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

#### Certified copies:

- a) ☐ All    b) ☐ Some\*\*    c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                                                      |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                          | 3) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)<br>Paper No(s)/Mail Date <u>10/21/2013</u> | 4) <input type="checkbox"/> Other: _____                                                |

The present application is being examined under the pre-AIA first to invent provisions.

### **DETAILED ACTION**

#### ***Claim Status***

1. Claims 1-21 are pending and have been examined.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of 35 U.S.C. 112(b):  
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2, 11, and 20 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Claims 2, 11, and 20 recite the limitation "the generated feedback" in line 6 of claim 2, line 7 of claim 11, and line 6 of claim 20. There is insufficient antecedent basis for this limitation in these claims.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**5. Claims 1-21 are rejected under pre-AIA 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication 20110047161 by Myaeng et. al. (hereafter Myaeng).**

**Claim 1 :**

Myaeng discloses

“generating a query based at least in part on a topic of interest;” [generating a query (figure 5 element 51, query is input from user) based at least in part on a topic of interest (figure 5 52, classify query topic category for user query)]

“expanding search terms of the query;”[expanding search terms (figure 5 55, expand initial user query using ranked representative keywords) of the query (figure 5, 55, user query)]

“executing the query on a plurality of data sources; and” [figure 5 element 56, retrieve all of corresponding documents online using expanded query. Accordingly, executing the query (figure 5 element 56, using expanded query) on a plurality of data sources (figure 5, element 56, retrieving all of corresponding documents)]

“monitoring at least one specific data source selected from the plurality of data sources for matches to the query.” [monitoring (0052, determining a document relevant to a user query)at

Art Unit: 2167

least one specific data source (figure 1, elements 12) selected from the plurality of data sources (figure 1 elements 12, 13, 14) for matches to the query (figure 1 element 12; 0052, document collection database 12 stores query/document text information for determining a document relevant to a user query)]

**Claim 2 :**

Myaeng discloses

“extracting data from the at least one monitored specific data source;”[0050, a service server fro ranking relevant documents as retrieval results which a search engine retrieves in response to a user query and provides a user with ranked documents through an online web browser. 0052, the relevance determined document collection database 12 stores query/document text information for determining a document relevant to a user query. 0059 extracts a corresponding topic category. Accordingly, extracting data (0059, extracts a corresponding topic category) from the at least one monitored specific data source (figure 1 12)]

“analyzing the extracted data;”[0058, extracts a corresponding query topic category and classifies a user query as the extracted query topic category]

“establishing a communication channel with a user based at least in part on the analyzed data; and” [0058, inquires into query/document text information stored in the relevance determined document collection database 12 through a query input from a user, and extracts a corresponding query topic category and classifies a user query as the extracted query topic category. Accordingly, establishing a communication channel (0058, inquires...) with a user (0058, ..through a query input from a user) based at least in part on the analyzed data (0058, classifies a user query as the extracted query topic category) ]

“receiving feedback from the user based at least in part on the generated feedback.”

[receiving feedback from the user (0051, classifies a document which a user regards as relevant) based at least in part on the generated feedback (0051, topic category classifier classifies query input from a user )]

**Claim 3 :**

Myaeng discloses “The method of claim 2, further comprising visualizing at least the extracted data, the analyzed data, or a combination thereof.” [0102, search engine provides a user with retrieved documents as information retrieval results for a user query in the form of a web page including a list which is ordered according to a ranking of the representative keywords through the service server. Accordingly, visualizing (0102, provides a user with retrieved documents as information retrieval results for a user query) at least the extracted data, the analyzed data (0102, a user query), or a combination thereof]

**Claim 4 :**

Myaeng discloses “The method of claim 1, in which expanding the query comprises expanding the search terms to include at least misspellings, synonyms, sub-topics, antonyms, or a combination thereof.”[ Accordingly, in which expanding the query (figure 5 55, expand initial user query using ranked representative keywords) comprises sub-topics (0099, keywords are extracted from documents corresponding to a topic category which is allocated to relevant documents, and are ranked based on DF\*ICF weight to thereby configure a representative keyword list)]

**Claim 5 :**

Art Unit: 2167

Myaeng discloses “The method of claim 1, further comprising: refining the search terms based at least in part on the executed query, and in which the monitoring is performed to monitor for matches to a refined query.” [refining the search terms based at least in part on the executed query (figure 5 55, expand initial user query using ranked representative keywords), and in which the monitoring is performed to monitor for matches to a refined query (figure 1 element 12; 0052, document collection database 12 stores query/document text information for determining a document relevant to a user query)]

**Claim 6 :**

Myaeng discloses “The method of claim 1, in which the plurality of data sources include open-source data sources that are publically available and closed-source data sources that at not publically accessible.” [the plurality of data sources (figure 1 12, 13, 14) include open-source data sources (figure 1 12) that are publically available (0052, database 12 stores query/document text information for determining a document relevant to a user query ) and closed-source data sources (figure 1 13, 14) that at not publically accessible (13 and 14 do not determine the relevant documents. 0052, database 12 stores query/document text information for determining a document relevant to a user query. )]

**Claim 7 :**

Myaeng discloses “The method of claim 1, in which the query is a natural language query, and further comprising translating the query to a system understood language.” [query is a natural language query (0046, keyword input from a user), and further comprising translating the query to a system understood language (0051, classifies a query input from a user)]

**Claim 8 :**

Myaeng discloses “The method of claim 1, in which the plurality of data sources are pre-defined.” [0049, an information retrieval system according to an exemplary embodiment of the present invention includes a topic category classifier 11, a relevance determined document collection database 12, a topic category transition map database 13, and a topic category-classified pseudo document set database. Accordingly, the plurality of data sources (figure 1 12, 13, 14) are pre-defined (figure 1; 0049, includes)]

**Claim 9 :**

Myaeng discloses “The method of claim 1, in which the monitoring comprises deploying extractors to each of specific data source, a number of extractors being dynamic based at least in part on a traffic volume of each specific data source.” [the monitoring (0052, determining a document relevant to a user query) comprises deploying extractors to each of specific data source(0058, extracts a corresponding query topic category), a number of extractors being dynamic(0058, extracts a corresponding) based at least in part on a traffic volume (0058, input from a user) of each specific data source (0058, database 12)]

**Claim 10 :**

Myaeng discloses

“a memory unit; and”[0113, storing medium]

“at least one processor coupled to the memory unit, in which the at least one processor is configured.” [0113, computer]

“to generate a query based at least in part on a topic of interest;” [figure 5 51 and 52. Accordingly, to generate a query (figure 5 element 51, query is input from user) based at least in part on a topic of interest (figure 5 52, classify query topic category for user query)]

“to expand search terms of the query;” [figure 5 55. Accordingly, to expand search terms (figure 5 55, expand initial user query using ranked representative keywords) of the query (figure 5, 55, user query)]

“to execute the query on a plurality of data sources; and” [figure 5 element 56, retrieve all of corresponding documents online using expanded query. Accordingly, to execute the query (figure 5 element 56, using expanded query) on a plurality of data sources (figure 5, element 56, retrieving all of corresponding documents)]

“to monitor at least one specific data source selected from the plurality of data sources for matches to the query.” [figure 1 and 0052. Accordingly, to monitor at least one specific data source (figure 1, elements 12) selected from the plurality of data sources (figure 1 elements 12, 13, 14) for matches to the query (figure 1 element 12; 0052, document collection database 12 stores query/document text information for determining a document relevant to a user query)]

**Claim 11 :**

Myaeng discloses

“to extract data from the at least one monitored specific data source;”[0050, a service server fro ranking relevant documents as retrieval results which a search engine retrieves in response to a user query and provides a user with ranked documents through an online web browser. 0052, the relevance determined document collection database 12 stores query/document text information for determining a document relevant to a user query. 0059

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extracts a corresponding topic category. Accordingly, extracting data (0059, extracts a corresponding topic category) from the at least one monitored specific data source (figure 1 12)]

“to analyze the extracted data;”[0058, extracts a corresponding query topic category and classifies a user query as the extracted query topic category]

“to establish a communication channel with a user based at least in part on the analyzed data; and” [0058, inquires into query/document text information stored in the relevance determined document collection database 12 through a query input from a user, and extracts a corresponding query topic category and classifies a user query as the extracted query topic category. Accordingly, establishing a communication channel (0058, inquires...) with a user (0058, ..through a query input from a user) based at least in part on the analyzed data (0058, classifies a user query as the extracted query topic category) ]

“to receive feedback from the user based at least in part on the generated feedback.”  
[receiving feedback from the user (0051, classifies a document which a user regards as relevant) based at least in part on the generated feedback (0051, topic category classifier classifies query input from a user )]

**Claim 12 :**

Myaeng discloses “The apparatus of claim 11, in which the at least one processor is further configured to visualizing at least the extracted data, the analyzed data, or a combination thereof.”  
[0102, search engine provides a user with retrieved documents as information retrieval results for a user query in the form of a web page including a list which is ordered according to a ranking of the representative keywords through the service server. Accordingly, visualizing (0102, provides a user with retrieved documents as information retrieval results for a user query) at least the

extracted data, the analyzed data (0102, a user query), or a combination thereof]

**Claim 13 :**

Myaeng discloses “The apparatus of claim 11, in which the at least one processor is further configured to expand the search terms to include at least misspellings, synonyms, sub-topics, antonyms, or a combination thereof.”[ Accordingly, to expand the query (figure 5 55, expand initial user query using ranked representative keywords) comprises sub-topics (0099, keywords are extracted from documents corresponding to a topic category which is allocated to relevant documents, and are ranked based on DF\*ICF weight to thereby configure a representative keyword list)]

**Claim 14 :**

Myaeng discloses “The apparatus of claim 11, in which the at least one processor is further configured: to refine the search terms based at least in part on the executed query, and to monitor for matches to a refined query.” [refining the search terms based at least in part on the executed query(figure 5 55, expand initial user query using ranked representative keywords), and to monitor for matches to a refined query (figure 1 element 12; 0052, document collection database 12 stores query/document text information for determining a document relevant to a user query)]

**Claim 15 :**

Myaeng discloses “The apparatus of claim 11, in which the plurality of data sources include open-source data sources that are publically available and closed-source data sources that at not publically accessible.”[ the plurality of data sources (figure 1 12, 13, 14) include open-source data sources (figure 1 12) that are publically available (0052, database 12 stores query/document text information for determining a document relevant to a user query ) and closed-source data

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sources (figure 1 13, 14) that are not publically accessible (13 and 14 do not determine the relevant documents. 0052, database 12 stores query/document text information for determining a document relevant to a user query.)]

**Claim 16 :**

Myaeng discloses “The apparatus of claim 11, in which the query is a natural language query, and in which the at least one processor is further configured to translate the query to a system understood language.” [query is a natural language query (0046, keyword input from a user), and in which the at least one processor is further configured to translate the query to a system understood language (0051, classifies a query input from a user)]

**Claim 17 :**

Myaeng discloses “The apparatus of claim 11, in which the plurality of data sources are pre-defined.” [0049, an information retrieval system according to an exemplary embodiment of the present invention includes a topic category classifier 11, a relevance determined document collection database 12, a topic category transition map database 13, and a topic category-classified pseudo document set database. Accordingly, the plurality of data sources (figure 1 12, 13, 14) are pre-defined (figure 1; 0049, includes)]

**Claim 18 :**

Myaeng discloses “The apparatus of claim 11, in which the at least one processor is further configured to deploy extractors to each of specific data source, a number of extractors being dynamic based at least in part on a traffic volume of each specific data source. [in which the at least one processor is further configured to deploy extractors to each of specific data source (0058, extracts a corresponding query topic category), a number of extractors being

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dynamic(0058, extracts a corresponding) based at least in part on a traffic volume (0058, input from a user) of each specific data source (0058, database 12)]

**Claim 19 :**

Myaeng discloses

“a non-transitory computer-readable medium having program code recorded thereon, the program code comprising:” [0113, storing medium]

“program code to generate a query based at least in part on a topic of interest;” [figure 5 51 and 52. Accordingly, program code to generate a query (figure 5 element 51, query is input from user) based at least in part on a topic of interest (figure 5 52, classify query topic category for user query)]

“program code to expand search terms of the query;” [figure 5 55. Accordingly, program code to expand search terms (figure 5 55, expand initial user query using ranked representative keywords) of the query (figure 5, 55, user query)]

“program code to execute the query on a plurality of data sources; and” [figure 5 element 56, retrieve all of corresponding documents online using expanded query. Accordingly, program code to execute the query (figure 5 element 56, using expanded query) on a plurality of data sources (figure 5, element 56, retrieving all of corresponding documents)]

“program code to monitor at least one specific data source selected from the plurality of data sources for matches to the query.” [figure 1 and 0052. Accordingly, program code to monitor at least one specific data source (figure 1, elements 12) selected from the plurality of data sources (figure 1 elements 12, 13, 14) for matches to the query (figure 1 element 12; 0052, document collection database 12 stores query/document text information for determining a

document relevant to a user query))]

**Claim 20 :**

Myaeng discloses “program code to extract data from the at least one monitored specific data source;”[0050, a service server fro ranking relevant documents as retrieval results which a search engine retrieves in response to a user query and provides a user with ranked documents through an online web browser. 0052, the relevance determined document collection database 12 stores query/document text information for determining a document relevant to a user query. 0059 extracts a corresponding topic category. Accordingly, extracting data (0059, extracts a corresponding topic category) from the at least one monitored specific data source (figure 1 12)]

“program code to analyze the extracted data;”[0058, extracts a corresponding query topic category and classifies a user query as the extracted query topic category]

“program code to establish a communication channel with a user based at least in part on the analyzed data; and” [0058, inquiries into query/document text information stored in the relevance determined document collection database 12 through a query input from a user, and extracts a corresponding query topic category and classifies a user query as the extracted query topic category. Accordingly, establishing a communication channel (0058, inquires...) with a user (0058, ..through a query input from a user) based at least in part on the analyzed data (0058, classifies a user query as the extracted query topic category) ]

“program code to receive feedback from the user based at least in part on the generated feedback.” [receiving feedback from the user (0051, classifies a document which a user regards as relevant) based at least in part on the generated feedback (0051, topic category classifier classifies query input from a user )]

**Claim 21 :**

Myaeng discloses “The computer program of claim 19, further comprising: program code to refine the search terms based at least in part on the executed query, and program code to monitor for matches to a refined query. [program code to refine the search terms based at least in part on the executed query (figure 5 55, expand initial user query using ranked representative keywords), and program code to monitor for matches to a refined query (figure 1 element 12; 0052, document collection database 12 stores query/document text information for determining a document relevant to a user query)]

***Conclusion***

6. The prior art made of record listed on pto-892 and not relied, if any, upon is considered pertinent to applicant’s disclosure.

***Contact Information***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL PHAM whose telephone number is (571)272-3924. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Robert Beausoliel can be reached on 571-272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. P./  
Examiner, Art Unit 2167

/ROBERT BEAUSOLIEL JR/  
Supervisory Patent Examiner, Art Unit 2167

|                                   |                                       |                                                             |             |
|-----------------------------------|---------------------------------------|-------------------------------------------------------------|-------------|
| <b>Notice of References Cited</b> | Application/Control No.<br>13/928,313 | Applicant(s)/Patent Under<br>Reexamination<br>CHADHA ET AL. |             |
|                                   | Examiner<br>MICHAEL PHAM              | Art Unit<br>2167                                            | Page 1 of 1 |

U.S. PATENT DOCUMENTS

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Name              | Classification |
|---|---|--------------------------------------------------|-----------------|-------------------|----------------|
| * | A | US-2011/0047161                                  | 02-2011         | Myaeng et al.     | 707/740        |
| * | B | US-2013/0325838                                  | 12-2013         | Liao, Ying-Hsiang | 707/707        |
| * | C | US-2013/0282702                                  | 10-2013         | Zhu et al.        | 707/723        |
| * | D | US-2008/0270344                                  | 10-2008         | Yurick et al.     | 707/2          |
| * | E | US-2004/0015481                                  | 01-2004         | Zinda, Kenneth    | 707/1          |
|   | F | US-                                              |                 |                   |                |
|   | G | US-                                              |                 |                   |                |
|   | H | US-                                              |                 |                   |                |
|   | I | US-                                              |                 |                   |                |
|   | J | US-                                              |                 |                   |                |
|   | K | US-                                              |                 |                   |                |
|   | L | US-                                              |                 |                   |                |
|   | M | US-                                              |                 |                   |                |

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| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Country | Name | Classification |
|---|---|--------------------------------------------------|-----------------|---------|------|----------------|
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|   | O |                                                  |                 |         |      |                |
|   | P |                                                  |                 |         |      |                |
|   | Q |                                                  |                 |         |      |                |
|   | R |                                                  |                 |         |      |                |
|   | S |                                                  |                 |         |      |                |
|   | T |                                                  |                 |         |      |                |

NON-PATENT DOCUMENTS

| * |   | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|---|---|-------------------------------------------------------------------------------------------|
|   | U |                                                                                           |
|   | V |                                                                                           |
|   | W |                                                                                           |
|   | X |                                                                                           |

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

|                                                                                                                                   |                                                        |                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------|
| <div><div>Index of Claims</div><div></div></div> | <div>Application/Control No.</div> <div>13928313</div> | <div>Applicant(s)/Patent Under Reexamination</div> <div>CHADHA ET AL.</div> |
|                                                                                                                                   | <div>Examiner</div> <div>MICHAEL PHAM</div>            | <div>Art Unit</div> <div>2167</div>                                         |

|              |                     |              |                       |              |                         |              |                     |
|--------------|---------------------|--------------|-----------------------|--------------|-------------------------|--------------|---------------------|
| <div>✓</div> | <div>Rejected</div> | <div>-</div> | <div>Cancelled</div>  | <div>N</div> | <div>Non-Elected</div>  | <div>A</div> | <div>Appeal</div>   |
| <div>=</div> | <div>Allowed</div>  | <div>÷</div> | <div>Restricted</div> | <div>I</div> | <div>Interference</div> | <div>O</div> | <div>Objected</div> |

☐ Claims renumbered in the same order as presented by applicant

☐ CPA

☐ T.D.

☐ R.1.47

| CLAIM |          | DATE       |  |  |  |  |  |  |  |  |
|-------|----------|------------|--|--|--|--|--|--|--|--|
| Final | Original | 01/26/2015 |  |  |  |  |  |  |  |  |
|       | 1        | ✓          |  |  |  |  |  |  |  |  |
|       | 2        | ✓          |  |  |  |  |  |  |  |  |
|       | 3        | ✓          |  |  |  |  |  |  |  |  |
|       | 4        | ✓          |  |  |  |  |  |  |  |  |
|       | 5        | ✓          |  |  |  |  |  |  |  |  |
|       | 6        | ✓          |  |  |  |  |  |  |  |  |
|       | 7        | ✓          |  |  |  |  |  |  |  |  |
|       | 8        | ✓          |  |  |  |  |  |  |  |  |
|       | 9        | ✓          |  |  |  |  |  |  |  |  |
|       | 10       | ✓          |  |  |  |  |  |  |  |  |
|       | 11       | ✓          |  |  |  |  |  |  |  |  |
|       | 12       | ✓          |  |  |  |  |  |  |  |  |
|       | 13       | ✓          |  |  |  |  |  |  |  |  |
|       | 14       | ✓          |  |  |  |  |  |  |  |  |
|       | 15       | ✓          |  |  |  |  |  |  |  |  |
|       | 16       | ✓          |  |  |  |  |  |  |  |  |
|       | 17       | ✓          |  |  |  |  |  |  |  |  |
|       | 18       | ✓          |  |  |  |  |  |  |  |  |
|       | 19       | ✓          |  |  |  |  |  |  |  |  |
|       | 20       | ✓          |  |  |  |  |  |  |  |  |
|       | 21       | ✓          |  |  |  |  |  |  |  |  |



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## BIB DATA SHEET

CONFIRMATION NO. 2955

| SERIAL NUMBER                                                                                                                                                                                                                                                                                                                                                                                                                                         | FILING or 371(c)<br>DATE                                                                                          | CLASS                                                    | GROUP ART UNIT                    | ATTORNEY DOCKET<br>NO.                                                                                                                                                                                                                                                    |                               |                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------------------|
| 13/928,313                                                                                                                                                                                                                                                                                                                                                                                                                                            | 06/26/2013                                                                                                        | 707                                                      | 2167                              | 79531-000002                                                                                                                                                                                                                                                              |                               |                                    |
| <b>RULE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                   |                                                          |                                   |                                                                                                                                                                                                                                                                           |                               |                                    |
| <b>APPLICANTS</b><br>Rule 14, Santa Monica, CA, Assignee (with 37 CFR 1.172 Interest);<br><b>INVENTORS</b><br>Sharon Gill CHADHA, Santa Monica, CA;<br>Xin CHENG, San Diego, CA;<br>Parvinder CHADHA, Santa Monica, CA;<br><b>** CONTINUING DATA *****</b><br>This appln claims benefit of 61/679,024 08/02/2012<br><b>** FOREIGN APPLICATIONS *****</b><br><b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY **</b><br>07/18/2013 |                                                                                                                   |                                                          |                                   |                                                                                                                                                                                                                                                                           |                               |                                    |
| Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Verified and Acknowledged <u>/MICHAEL PHAM/</u><br>Examiner's Signature                                                                                                                                                                         |                                                                                                                   | <input type="checkbox"/> Met after Allowance<br>Initials | <b>STATE OR<br/>COUNTRY</b><br>CA | <b>SHEETS<br/>DRAWINGS</b><br>14                                                                                                                                                                                                                                          | <b>TOTAL<br/>CLAIMS</b><br>21 | <b>INDEPENDENT<br/>CLAIMS</b><br>3 |
| <b>ADDRESS</b><br>Seyfarth Shaw LLP<br>2029 Century Park East, Suite 3500<br>Los Angeles, CA 90067-3063<br>UNITED STATES                                                                                                                                                                                                                                                                                                                              |                                                                                                                   |                                                          |                                   |                                                                                                                                                                                                                                                                           |                               |                                    |
| <b>TITLE</b><br>REAL-TIME AND ADAPTIVE DATA MINING                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                   |                                                          |                                   |                                                                                                                                                                                                                                                                           |                               |                                    |
| <b>FILING FEE<br/>RECEIVED</b><br>770                                                                                                                                                                                                                                                                                                                                                                                                                 | FEES: Authority has been given in Paper<br>No. _____ to charge/credit DEPOSIT ACCOUNT<br>No. _____ for following: |                                                          |                                   | <input type="checkbox"/> All Fees<br><input type="checkbox"/> 1.16 Fees (Filing)<br><input type="checkbox"/> 1.17 Fees (Processing Ext. of time)<br><input type="checkbox"/> 1.18 Fees (Issue)<br><input type="checkbox"/> Other _____<br><input type="checkbox"/> Credit |                               |                                    |

EAST Search History

EAST Search History (Prior Art)

| Ref # | Hits    | Search Query                                                    | DBs                                                      | Default Operator | Plurals | Time Stamp       |
|-------|---------|-----------------------------------------------------------------|----------------------------------------------------------|------------------|---------|------------------|
| S1    | 0       | ("("20080201339"   "8078489"   "8301486"   "8498889").PN.").PN. | US-PGPUB; USPAT; USOCR                                   | OR               | OFF     | 2015/01/24 23:13 |
| S2    | 1       | ("20140040301").PN.                                             | US-PGPUB; USPAT; USOCR                                   | OR               | OFF     | 2015/01/24 23:14 |
| S3    | 0       | "13929283"                                                      | USPAT                                                    | OR               | OFF     | 2015/01/25 00:56 |
| S4    | 1       | "13929283"                                                      | US-PGPUB; USPAT                                          | OR               | OFF     | 2015/01/25 00:56 |
| S5    | 0       | ("("20080201339"   "8078489"   "8301486"   "8498889").PN.").PN. | US-PGPUB; USPAT; USOCR                                   | OR               | OFF     | 2015/01/25 07:16 |
| S6    | 4       | ("20080201339"   "8078489"   "8301486"   "8498889").PN.         | US-PGPUB; USPAT                                          | OR               | OFF     | 2015/01/25 07:17 |
| S7    | 2       | "8498889"                                                       | US-PGPUB; USPAT                                          | OR               | OFF     | 2015/01/25 07:18 |
| S8    | 1942386 | query topic expand\$3 analyze                                   | US-PGPUB; USPAT                                          | OR               | OFF     | 2015/01/25 07:19 |
| S9    | 7       | query topic expand\$3 analyze                                   | US-PGPUB; USPAT                                          | SAME             | OFF     | 2015/01/25 07:19 |
| S10   | 0       | query topic expand\$3 analyze feedback                          | US-PGPUB; USPAT                                          | SAME             | OFF     | 2015/01/25 07:21 |
| S11   | 12      | query expand\$3 analyze feedback                                | US-PGPUB; USPAT                                          | SAME             | OFF     | 2015/01/25 07:21 |
| S12   | 0       | query expand\$3 analyze data resource feedback                  | US-PGPUB; USPAT                                          | SAME             | OFF     | 2015/01/25 07:24 |
| S13   | 0       | query expand\$3 analyze resource feedback                       | US-PGPUB; USPAT                                          | SAME             | OFF     | 2015/01/25 07:24 |
| S14   | 0       | quer\$3 expand\$3 analyze resource feedback                     | US-PGPUB; USPAT                                          | SAME             | OFF     | 2015/01/25 07:24 |
| S15   | 0       | quer\$3 expand\$3 analyze resource feedback                     | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME             | OFF     | 2015/01/25 07:24 |
| S16   | 253     | (chadha-sharon or cheng-xin or chadha-parvinder).in.            | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | SAME             | OFF     | 2015/01/25 07:25 |
| S17   | 115     | (chadha-sharon or cheng-xin or chadha-parvinder).in. and        | US-PGPUB; USPAT;                                         | SAME             | OFF     | 2015/01/25 07:25 |

|     |    |                                                                                                                  |                                                                            |      |     |                     |
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|     |    | @ad<"20120802"                                                                                                   | USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB                        |      |     |                     |
| S18 | 82 | (chadha-sharon or cheng-xin or chadha-parvinder).in. and @pd<"20120802"                                          | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>07:25 |
| S19 | 0  | (chadha-sharon or cheng-xin or chadha-parvinder).in. and @pd<"20120802" and query data analyz\$3                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>07:25 |
| S20 | 0  | (chadha-sharon or cheng-xin or chadha-parvinder).in. and @pd<"20120802" and query resource analyz\$3             | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>07:26 |
| S21 | 0  | (chadha-sharon or cheng-xin or chadha-parvinder).in. and @pd<"20120802" and query (resource or source) analyz\$3 | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>07:26 |
| S22 | 0  | (chadha-sharon or cheng-xin or chadha-parvinder).in. and @pd<"20120802" and quer\$3                              | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>07:26 |
| S23 | 0  | (chadha-sharon or cheng-xin or chadha-parvinder).in. and @pd<"20120802" and "707".clas.                          | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>07:26 |
| S24 | 0  | (chadha-sharon or cheng-xin or chadha-parvinder).in. and @ad<"20120802" and "707".clas.                          | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>07:26 |
| S25 | 4  | S9 AND ( (G06F17/30672 OR G06F17/30442 OR G06F17/30796).CPC. )                                                   | US-PGPUB;<br>USPAT                                                         | SAME | OFF | 2015/01/25<br>07:27 |
| S26 | 4  | S9 AND ( (G06F17/30672 OR G06F17/30442 OR G06F17/30796).CPC. or 707/765.ccls.)                                   | US-PGPUB;<br>USPAT                                                         | SAME | OFF | 2015/01/25<br>07:32 |

|     |          |                                                                                                                                                             |                                                                            |      |     |                     |
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| S27 | 0        | "rule 14".as.                                                                                                                                               | US-PGPUB;<br>USPAT                                                         | OR   | OFF | 2015/01/25<br>07:42 |
| S28 | 12699938 | (quer\$3 or search\$3) expand\$3<br>(datamin\$3 or "data mining")<br>(source or resource) (analyz\$3 or<br>stud\$3)                                         | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR   | OFF | 2015/01/25<br>07:49 |
| S29 | 10       | (quer\$3 or search\$3) expand\$3<br>determin\$3 (source or resource)<br>and (datamin\$3 or "data mining")<br>(source or resource) (analyz\$3 or<br>stud\$3) | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>07:50 |
| S30 | 2        | S29 AND ( (G06F17/2785 OR<br>G06F17/3061 OR<br>G06F17/30672).CPC. )                                                                                         | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>07:52 |
| S31 | 2034     | data min\$3 open source                                                                                                                                     | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:14 |
| S32 | 14       | data min\$3 open source comments                                                                                                                            | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:14 |
| S33 | 103      | monitor data source mining                                                                                                                                  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:17 |
| S34 | 80       | monitor data source mining and<br>@ad<"20120802"                                                                                                            | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:17 |
| S35 | 82       | (identif\$3 or search\$3 or find\$3 or<br>quer\$3) (source or resource) and<br>monitor (source or resource) mining<br>and @ad<"20120802"                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:18 |
| S36 | 53       | (identif\$3 or search\$3 or find\$3 or<br>quer\$3) (source or resource)<br>monitor (source or resource) mining                                              | US-PGPUB;<br>USPAT;<br>USOCR;                                              | SAME | OFF | 2015/01/25<br>08:18 |

|     |       |                                                                                                                                                                                       |                                                                            |      |     |                     |
|-----|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|------|-----|---------------------|
|     |       | and @ad<"20120802"                                                                                                                                                                    | FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB                                  |      |     |                     |
| S37 | 3137  | real time data mining and<br>@ad<"20120802"                                                                                                                                           | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:22 |
| S38 | 137   | real time data mining feedback and<br>@ad<"20120802"                                                                                                                                  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:22 |
| S39 | 37    | real time data mining feedback and<br>@ad<"20120802" and "707".clas.                                                                                                                  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:23 |
| S40 | 9     | real time data mining feedback and<br>@ad<"20120802" and quer\$3<br>expan\$4                                                                                                          | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:32 |
| S41 | 9     | real time data mining feedback and<br>@ad<"20120802" and quer\$3<br>expan\$6                                                                                                          | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:32 |
| S42 | 2     | real time data mining visual and<br>feedback and @ad<"20120802" and<br>quer\$3 expan\$6                                                                                               | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:33 |
| S43 | 0     | quer\$3 expan\$4 analyz\$3 extract\$3<br>("data mining" or "data mine")<br>(resource or source or data or<br>database)                                                                | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:39 |
| S44 | 3     | quer\$3 expan\$4 determin\$3<br>(resource or source or data or<br>database) and analyz\$3 extract\$3<br>("data mining" or "data mine")<br>(resource or source or data or<br>database) | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:40 |
| S45 | 38124 | ("data mining" or "data mine")                                                                                                                                                        | US-PGPUB;                                                                  | SAME | OFF | 2015/01/25          |

|     |       |                                                                                                                                                                                                       |                                                                            |      |     |                     |
|-----|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|------|-----|---------------------|
|     |       | (resource or source or data or database)                                                                                                                                                              | USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB              |      |     | 08:41               |
| S46 | 38139 | ("data mining" or "data mine" or "datamine") (resource or source or data or database)                                                                                                                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:42 |
| S47 | 38280 | ("data mining" or "data mine" or "datamine" or "datamining") (resource or source or data or database)                                                                                                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:42 |
| S48 | 3268  | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database)                                                                                           | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:42 |
| S49 | 546   | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) analyz\$3                                                                                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:42 |
| S50 | 1074  | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and analyz\$3 query (resource or source or data or database)                              | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:43 |
| S51 | 121   | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and monitor\$3 analyz\$3 query (resource or source or data or database)                   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:43 |
| S52 | 191   | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database)     | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:43 |
| S53 | 168   | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) and | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;            | SAME | OFF | 2015/01/25<br>08:44 |

|     |    |                                                                                                                                                                                                                                      |                                                                            |      |     |                     |
|-----|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|------|-----|---------------------|
|     |    | @ad< "20120802"                                                                                                                                                                                                                      | IBM_TDB                                                                    |      |     |                     |
| S54 | 4  | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) customer and @ad< "20120802"       | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:44 |
| S55 | 2  | ("data mining" or "data mine" or "datamine" or "datamining") query (resource or source or data or database) and (monitor\$3 or track\$3) analyz\$3 query (resource or source or data or database) data analytics and @ad< "20120802" | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:55 |
| S56 | 0  | quer\$3 expan\$4 extract\$3 query resource and data analytics                                                                                                                                                                        | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:57 |
| S57 | 11 | quer\$3 expan\$4 and extract\$3 query resource and data analytics                                                                                                                                                                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>08:57 |
| S58 | 6  | quer\$3 expan\$4 and extract\$3 quer\$3 (resource or source or database) and monitor\$3 query (resource or source or database) data analytics                                                                                        | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | SAME | OFF | 2015/01/25<br>09:00 |

EAST Search History (I nterference)

| Ref # | Hits | Search Query                                                                                                             | DBs                         | Default Operator | Plurals | Time Stamp          |
|-------|------|--------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------|---------|---------------------|
| S59   | 2454 | "5" AND ( (G06F17/30672 OR G06F17/30442 OR G06F17/30796).CPC. or 707/765.ccls.)                                          | US-PGPUB;<br>USPAT;<br>UPAD | SAME             | OFF     | 2015/01/25<br>07:32 |
| S60   | 4    | query topic expand\$3 analyze AND ( (G06F17/30672 OR G06F17/30442 OR G06F17/30796).CPC. or 707/765.ccls.)                | US-PGPUB;<br>USPAT;<br>UPAD | SAME             | OFF     | 2015/01/25<br>07:33 |
| S61   | 3    | query expand\$3 analyze feedback and( (G06F17/30672 OR G06F17/30442 OR G06F17/30796).CPC. or 707/765.ccls.)              | US-PGPUB;<br>USPAT;<br>UPAD | SAME             | OFF     | 2015/01/25<br>07:33 |
| S62   | 3    | query expand\$3 analyze feedback and( (G06F17/30672 OR G06F17/30442 OR G06F17/30796).CPC. or( 707/765 or 707/722).ccls.) | US-PGPUB;<br>USPAT;<br>UPAD | SAME             | OFF     | 2015/01/25<br>07:39 |
| S63   | 4    | query topic expand\$3 analyze AND ( (G06F17/30672 OR G06F17/30442 OR G06F17/30796).CPC. or (707/722 or                   | US-PGPUB;<br>USPAT;         | SAME             | OFF     | 2015/01/25<br>07:40 |

|     |       |                                                                                                               |                       |      |     |                  |
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|     |       | 707/765).cls.)                                                                                                | UPAD                  |      |     |                  |
| S64 | 2     | real time data mining visual and feedback and @ad<"20120802" and quer\$3 expan\$6                             | US-PGPUB; USPAT; UPAD | SAME | OFF | 2015/01/25 08:34 |
| S65 | 135   | real time data mining feedback and @ad<"20120802"                                                             | US-PGPUB; USPAT; UPAD | SAME | OFF | 2015/01/25 08:35 |
| S66 | 37    | real time data mining feedback and @ad<"20120802" and "707".clas.                                             | US-PGPUB; USPAT; UPAD | SAME | OFF | 2015/01/25 08:35 |
| S67 | 56382 | analyz\$3 extract\$3 data                                                                                     | US-PGPUB; USPAT; UPAD | SAME | OFF | 2015/01/25 08:35 |
| S68 | 6     | analyz\$3 extract\$3 datamining                                                                               | US-PGPUB; USPAT; UPAD | SAME | OFF | 2015/01/25 08:36 |
| S69 | 1083  | analyz\$3 extract\$3 ("data mining" or "data mine") (resource or source or data)                              | US-PGPUB; USPAT; UPAD | SAME | OFF | 2015/01/25 08:37 |
| S70 | 1083  | analyz\$3 extract\$3 ("data mining" or "data mine") (resource or source or data or database)                  | US-PGPUB; USPAT; UPAD | SAME | OFF | 2015/01/25 08:37 |
| S71 | 1     | quer\$3 expan\$4 analyz\$3 extract\$3 ("data mining" or "data mine") (resource or source or data or database) | US-PGPUB; USPAT; UPAD | SAME | OFF | 2015/01/25 08:38 |
| S72 | 2     | "20110047161"                                                                                                 | US-PGPUB; USPAT; UPAD | SAME | OFF | 2015/01/26 06:11 |

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| <b>INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT</b><br>( Not for submission under 37 CFR 1.99) | Application Number     |                    | 13928313   |  |
|                                                                                                     | Filing Date            |                    | 2013-06-26 |  |
|                                                                                                     | First Named Inventor   | Sharon Gill CHADHA |            |  |
|                                                                                                     | Art Unit               | 2165               |            |  |
|                                                                                                     | Examiner Name          | Neveen ABEL JALIL  |            |  |
|                                                                                                     | Attorney Docket Number | 79531-000002       |            |  |

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| /M.P./            | 1       | 8078489       | B1                     | 2011-12-13 | Marsten, Roy E.                                 |                                                                        |
| /M.P./            | 2       | 8301486       | B1                     | 2012-10-30 | Marsten, Roy Earl                               |                                                                        |
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|                                                                                                     | Filing Date            |                    | 2013-06-26 |
|                                                                                                     | First Named Inventor   | Sharon Gill CHADHA |            |
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| <b>Search Notes</b><br><br> | <b>Application/Control No.</b><br><br>13928313 | <b>Applicant(s)/Patent Under Reexamination</b><br><br>CHADHA ET AL. |
|                                                                                                              | <b>Examiner</b><br><br>MICHAEL PHAM            | <b>Art Unit</b><br><br>2167                                         |

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| SEARCH NOTES                                                           |           |          |
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| Search Notes                                                           | Date      | Examiner |
| G06F17/30672, G06F17/30442, G06F17/30796, 707/765, and 707/722 limited | 1/25/2015 | MP       |
| inventor search                                                        | 1/25/2015 | MP       |
| assignee search                                                        | 1/25/2015 | MP       |
| east search                                                            | 1/25/2015 | MP       |
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### [PDF] Keyword Query Expansion on Linked Data Using - Jens ...

[jens-lehmann.org/files/2013/icsoc\\_query\\_expansion.pdf](http://jens-lehmann.org/files/2013/icsoc_query_expansion.pdf) »

by S Shekarpour - Related articles

**sources**. In this work, we introduce a number of new **query expansion features** based on semantic and linguistic method in web **search** for tackling the vocabulary problem by ..... results. To learn the feature rankings we use the **data mining**.

### Successes and New Directions in Data Mining - Google Book...

<https://books.google.com/books?isbn=1599046456>

Florent Massegla, Pascal Poncelet, Maguelonne Telesseire - 2008 - Computers

To help users (mostly environmental researchers) **identity data** sets of interest, ...

Starting with an initial **search (query)** submitted by a researcher, we exploit stored ...

number of **sources**, we introduce an algorithm to let the network **expand** and ...

### [PDF] A Survey of Automatic Query Expansion in ... - CiteSeer

[citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.307.8469...](http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.307.8469...) »

by C CARPINETO - Cited by 171 - Related articles

are addressed. Why is **query expansion** so important to improve **search** ... submitted by the user are matched against the collection index to **find** the docu .... basic input to AOE consists of the original query q and a **source of data** from which ... (2005)) is similar to the definition of confidence of association rules in **data mining**.

### Advances in Knowledge Discovery and Data Mining: 12th ...

<https://books.google.com/books?isbn=3540681248>

Takeshi Washio, Einohti Suzuki, Kai Ming Ting - 2008 - Computers

Input Given the **search** phrase as **query** Q. Stage 1 Snippet Acquisition i) **Expand**

Q ... by some correlation features and take the top m to **get** a location collection. ...

prepare a **data source** of a given **query** from the Web, we use **search** engine.

### Lecture 9: Result Diversity and Query Log Mining

[cs.nyu.edu/courses/spring11/G22.2580.../lec9.html](http://cs.nyu.edu/courses/spring11/G22.2580.../lec9.html) » New York University »

Agrawal: Choose set S that maximizes the probability that a searcher will **find** some

document relevant to their information ... **Mining** query logs: Turning **search** usage

**data** into knowledge Fabrizio Silvestri. ... But generally an amazing **source** ... **Query**

**expansion** using associated queries Bodo Bollrbeck et al., CIKM 2009.

### Data Mining Queries - MSDN - Microsoft

[msdn.microsoft.com/en-us/.../bb522459.as...](http://msdn.microsoft.com/en-us/.../bb522459.as...) » Microsoft Developer Network »

This section provides an overview of the information you need to **get** started with **data**

**mining queries**. It describes the types of **queries** you can create against ...

### [PDF] Concept-based Search on Semi-Structured Data ... - Intranet

<https://domino.mpl-inf.mpg.de/intranet/ag5/ag5publ.../phdWSpaper.pdf> »

by J Graupmann - Cited by 4 - Related articles

nate some ideas from the research field of **data mining** and how to apply them to the

retrieval for **query expansion**. The **search** engine ... to comprise as many **data**

**sources** as possible, including HTML and XML. Thus we can not make ... our system

(section 2): Very often queries aim to **find** certain objects or more generally ...

### [PDF] Contextual information search based on domain using ...

[www.ljettos.org/Volume3Issue1/LJETTOS-2014-02-17-082.pdf](http://www.ljettos.org/Volume3Issue1/LJETTOS-2014-02-17-082.pdf) »

by S Barker - Related articles

using **query expansion**, in this context sensitive IP approach terms denoting

Explosion" as the **data** indexed by the **search** engines is so huge. Information ...

## Patent US20140040301 - Real-time and adaptive data ...

[www.google.com/patents/US20140040301](http://www.google.com/patents/US20140040301) - Google

Feb 6, 2014 - executing the **query** on a plurality of **data sources**, and ... program code to **expand search** terms of the **query**; ... Aspects of the present disclosure relate generally to **data mining**, and more particularly to providing a real-time data ... After the **query** is executed, the user may **find** unintended **search** results.

## Data Mining - SlideWiki

[slidewiki.org/deck/1472\\_data-mining](http://slidewiki.org/deck/1472_data-mining)

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started with **data mining queries**. It describes the types of **queries** you can create  
against ...

Jan 1, 2012 - Why is **query expansion** so important to improve **search effectiveness**? ... **find more**, fast **autocomplete search** with a succinct index, Proceedings of the ... Textual document indexing and retrieval via knowledge sources and data mining.

Step 11, 2001 – are addressed: Why is **query expansion** so important to improve **search** ... submitted by the user are matched against the collection index to **find** the doc ... basic input to AQE consists of the original query **q** and a **source of data** from which ..... 2005]) is similar to the definition of confidence of association rules in **data mining**

Aug 18, 2007 - Agrawal: Choose set  $S$  that maximizes the probability that a searcher will find some document relevant to their information ... Mining query logs. Turning search usage data into knowledge Fabrizio Silvestri ... But generally an amazing source. ... Query expansion using associated queries Bodo Billerbeck et al., CIKM 2003.

Mar 28, 2010 - **data sets** Log mining results as a whole as well as split into narrowing and expanding ... a **search engine** for images, with the help of two different **sources**, to evalu- ... A good example of efficient **query expansion** can be seen in the **search engine Ask** ... handling as well as related names, in case they **search** for a name.

Nov 13, 2009 -- note some ideas from the research field of **data mining** and how to apply them to the retrieval ... for **query expansion**. The **search engine** ... to comprise as many **data sources** as possible, including HTML and XML. Thus we can not make ... our system (section 2): Very often queries aim to **find** certain objects or more generally ...

Apr 8, 2012 - Wordnet is a lexical **database** that has become a standard **resource** in NLP research. ... The **search query** is mapped with wordnet to obtain relevant **expansion terms**. ... wiki articles and are **mined** based on the categories and content of the article ... For this project I **find Expand** model more suitable since the translation for ...

slidewiki.org/deck/1472 data-mining v

Nov 18, 2002 - [Collapse all] [Expand all] [Scrollable] **Search** ..... Simple **search** and **query** processing; (Deductive) expert systems ... **Data** cleaning; **Data** integration from multiple **sources**; **Warehousing** the **data**; **Data** cube construction; **Data** ... Group **data** to form new categories (i.e., clusters), e.g., cluster houses to find distribution patterns ...

#### [PDF] A Survey of Automatic Query Expansion in Information ...

[www.iro.umontreal.ca/~carpineto-Survey-QE.pdf](http://www.iro.umontreal.ca/~carpineto-Survey-QE.pdf) ... Université de Montréal

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Jan 31, 2012 - Why is **query expansion** so important to improve **search**

effectiveness? ... provide a broad taxonomy by **data source** and by expansion feature

-**finding** ..... is similar to the definition of confidence of association rules in **data**

**mining** problems.

#### Cross Lingual Information Retrieval Using Search Engine ...

[www.academia.edu/.../Cross\\_Lingual\\_Information\\_Retrieval...](http://www.academia.edu/.../Cross_Lingual_Information_Retrieval...) ... Academia.edu

Sep 8, 2010 - Cross Lingual Information Retrieval Using **Search** Engine and **Data**

**Mining** ... It uses insights from **data mining** and intelligent **search** for formulating the

**query** and ... will be **expanded** and the **expanded query** is presented to the **search**

engine. .... Step 4 - **Search Knowledge Sources**: This step submits the **query** to one

or ...

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### A Survey of Automatic Query Expansion in Information ...

dl.acm.org/citation.cfm?id... Association for Computing Machinery  
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### [PDF] Automatic Query Refinement Using Mined Semantic Relator

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by J Graupmann - 1995 - Cited by 12 - Related articles  
Dec 13, 2005 - a novel approach for **query expansion** that applies dependency **rules mined** from a large Web crawl, combining several existing techniques for **data** extraction ...

### [PDF] A Survey of Automatic Query Expansion in ... - CiteSeer

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www.cdi.drexel.edu/.../DKE20070Semantic%20Query... Drexel University  
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Sep 15, 2002 - **Data & Knowledge Engineering** 63 (2007) 63–75 ... First, it employs a hybrid **query expansion** algorithm combining association **rules** with ... OE, Okapi BM25 [14], and SLIPPER [2]. ... to help the user of **search** engines come up with an effective query set by **finding** the ... To apply association rule mining to our query.

### [PDF] Query Expansion Research and Application in Search ...

https://www.bth.se/.../MasterThesis.pdf Blekinge Institute of Technology  
by J Qui - 2009 - Related articles  
Jan 28, 2003 - four algorithms on one **query expansion** prototype system. The calculation time ... depend on the structure of **data** set, which is **data source** of concept lattice. 3 ...

### [PDF] A Survey of Automatic Query Expansion in Information ...

www.iro.umontreal.ca/...carpineto-Survey-QE.pdf... Université de Montréal  
by C CARPINETO - Cited by 171 - Related articles  
Jan 31, 2012 - Why is **query expansion** so important to improve **search** effectiveness? ... provide a broad taxonomy by **data source** and by expansion feature -**finding** method as ... system, reporting a 7 to 14% improvement in retrieval effectiveness. ... is similar to the definition of confidence of association **rules** in **data mining** problems.

### [PDF] Web Search and Browse Log Mining - Computing Science

https://www.cs.sfu.ca/.../log%20mining%20WW... Simon Fraser University  
Dec 15, 2003 - [14:30-15:30] Log mining for query-document matching (Jian Pei). • 15 minutes ... Different Types of Log **Data**: **Search** Logs, **Query**, Click, Algo result Ads result.

### Spring 11 Course: Web Search and Text Mining

www.cc.gatech.edu Georgia Institute of Technology College of Computing  
Jan 19, 2011 - Wed 2/16, Relevance feedback and **query expansion**, IIR Chap 9, Lecture 9, Fri 2/18 ... Chitnis: Authoritative **Sources** in a Hyperlinked Environment. 3.

... Towards recency ranking in web **search** AND Improving Recency Ranking Using Twitter **Data**. ... Tyler: **Mining** Generalized Association **Rules** on Biomedical Literature. 2.

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May 15, 2009 - **data source** for **search** engines. Recently, more ... **search** engines highly rely on online **mining** of **search** logs, we develop an ... An empirical study using real **data** of over two billion **query** ... correct **search query** spellings (e.g., {14, 15}), and monitor ... vey of a variety of real applications, we **find** that many anal- ..... **expansion**.

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[en.wikipedia.org/wiki/Stemming](http://en.wikipedia.org/wiki/Stemming) » Wikipedia »  
 Jan 17, 2007 - Many **search** engines treat words with the same stem as synonyms as a kind of **query expansion**, a process called conflation. ... To eliminate this **source** of error, Martin Porter released an official free-software implementation ... Instead, a typically smaller list of "**rules**" is stored which provides a path for the algorithm, given an ...

**A Survey of Automatic Query Expansion in Information ...**  
[dl.acm.org/citation.cfm?id...](http://dl.acm.org/citation.cfm?id...) » Association for Computing Machinery »  
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Dec 15, 2003 - Therefore, **finding** the right information can be difficult if not impossible. One ..... Example of clustering results produced by TRC for query "**data mining**" with .... Page 14 .... **Search engines** that use **query expansion** to refine user 's .... Inspired by works on Grouper, an **open-source** implementation of Suffix Tree Clustering was.

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An evaluation of **query expansion** by the addition of ... - Minker - Cited by 116  
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### Data Analytics

cloud.google.com/BigQuery  
Sign-up For Real-time Big **Data Analytics** On Google BigQuery.

### Unstructured data analytics

www.brainspace.com/  
There is a story inside your **data**. We help you find it.

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Sep 15, 2010 - **Query expansion** is one of the most important technologies ... in many fields such as **data analysis**, information management, software engineering, semantic ...

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Nov 15, 2002 - [Collapse all] [Expand all] [Scrollable] Search. **Data** ... **Extraction** of interesting (non-trivial, implicit, previously unknown and ... **Knowledge discovery** (**mining**) in databases (KDD), knowledge **extraction**, **data/pattern analysis**, **data** archeology, **data** dredging, ... Simple search and **query** processing; (Deductive) expert systems ...

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en.wikipedia.org/wiki/Stop\_words Wikipedia  
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en.wikipedia.org/wiki/Data\_Mining\_Extensions Wikipedia

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**[PDF]** an algorithm for finding effective query expansions through ..  
[www.researchgate.net/.../00b495...](http://www.researchgate.net/.../00b495...) **QUERY EXPANSIONS...ANALYSIS...** ▾  
by D Woltersheim · Cited by 2 · Related articles  
Aug 23, 2006 - **analysis** on word statistical information retrieval, and uses this **data** to discover high value **query expansions**. This process uses a medical ... UMLS, **data mining** 1. ... Recent advances in automated indexing allow us to **extract** concepts at ...

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### Data Mining Queries - MSDN - Microsoft

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### Patent US6988109 - System, method, software architecture ...

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www.audimotion.com/.../top-10-areas-where-data-analysis-is-adding-the-...  
Mar 27, 2012 - The most common request we receive is, "tell me how **data analysis** is being used in other ... drag-and-drop capabilities, and the **expansion** of **data** capacity limits ... instead of MS **query** and SQL to download, analyze and summarize **data** had ... to **monitor credit data**, market feeds, credit and financial information to track and ...

### [PPT] DATA WAREHOUSING AND DATA MINING - Department o

www.cse.iitb.ac.in/dbms/Data/Talks/kithi-talk-impact.ppt  
Apr 15, 1998 - **Data Warehousing**, OLAP and **data mining**: what and why (now)? ... **Data** is historical or point-in-time; Optimized for inquiry rather than **update**; Use of ... Provide special incentives; **Monitor** and **Track** The incentives; Bill and Collect ... **Data Extraction** and Loading; The Warehouse; Analyze and **Query** -- OLAP Tools; Metadata.

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dl.acm.org/citation.cfm?id=... Association for Computing Machinery  
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dl.acm.org/citation.cfm?id=1871437... Association for Computing Machinery  
by S J Shin - 2010 - Related articles  
Oct 28, 2010 - Tags: **data mining data stream data stream mining** design experimentation clap ... event **monitoring**, frequent behavior **monitoring** and **analytic** OLAP measures ... Hong Kyu Park, Won Suk Lee, Multiple continuous **queries** evaluation over **data streams**, ... **expand** SESSION: KM track: information **extraction**. Components for

### Data Warehousing Concepts - Oracle Documentation

docs.oracle.com/cd/E11862\_01/server /concept.htm Oracle Corporation  
Aug 10, 2007 - **Extracting** information from a **Data Warehouse** ... **Data** warehouses separate **analysis** workload from transaction workload and enable an ... (ETL) solution, statistical **analysis**, reporting, **data mining** capabilities, client **analysis** tools, and ... Cube materialized views bring the fast **update** and fast **query** capabilities of the OLAP ...  
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### [PDF] Best Practices for HP Enterprise Data Warehouse Appliance

h20195.www2.hp.com/v2/getpdf.../4aa3-8477enw.pdf Hewlett-Packard

Nov 27, 2011 - a SMP based SQL Server, Fast Track reference architecture. ... complex queries or extract large data sets for data mining and other analytics, .... Traditionally, DBAs spend a great deal of their time, effort and energy monitoring query response times, ... warehouse and sample interval specified when updating statistics, this ...

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<https://practicalanalytics.wordpress.com/.../big-data-analytics-use-cases/> ▼  
Dec 12, 2011 - Are you a firm where executives claim - "Data is our competitive advantage. ... create "second order" data that can be mined for sentiment analytics on products or ... It can be used to understand and track application or service behavior so that we .... Pressure to monitor all aspects of financial institutions has created a new ...

### [PDF] Application of Data Mining Technology in Digital Library

<ojs.academyipublisher.com/index.php/jcp/article/download/.../2872> ▼  
by M Zhang · 2011 · Cited by 2 · Related articles  
Apr 8, 2011 - extract the inherent link of the heterogeneous information to promote the digital ... structure, data mining can be divided into three categories in general, that is ...

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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|--------------------|-----------------------|-----------------------|------------------------|
| 13/928,313         | 06/26/2013            | Sharon Gill CHADHA    | 79531-000002           |

98275  
Seyfarth Shaw LLP  
2029 Century Park East, Suite 3500  
Los Angeles, CA 90067-3063

**CONFIRMATION NO. 2955**  
**POA ACCEPTANCE LETTER**



Date Mailed: 02/26/2014

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/12/2014.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/ctuazon/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

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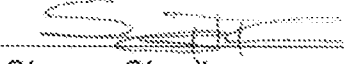
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Assignee Name and Address: **RULE 14**  
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The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

|           |                                                                                     |           |             |
|-----------|-------------------------------------------------------------------------------------|-----------|-------------|
| Signature |  | Date      | 12 Feb 2014 |
| Name      | Sharon Chadha                                                                       | Telephone | 369803984   |
| Title     | Chairperson                                                                         |           |             |

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The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Puya Partow-Navid/

February 12, 2014

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| EFS ID:                              | 18193815                           |
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| International Application Number:    |                                    |
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| Title of Invention:                  | REAL-TIME AND ADAPTIVE DATA MINING |
| First Named Inventor/Applicant Name: | Sharon Gill CHADHA                 |
| Customer Number:                     | 98275                              |
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| Receipt Date:                        | 12-FEB-2014                        |
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2029 Century Park East, Suite 3500  
Los Angeles, CA 90067-3063

**Title:**REAL-TIME AND ADAPTIVE DATA MINING

**Publication No.**US-2014-0040301-A1

**Publication Date:**02/06/2014

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|                                                                                                     | Filing Date            |                    | 2013-06-26 |  |
|                                                                                                     | First Named Inventor   | Sharon Gill CHADHA |            |  |
|                                                                                                     | Art Unit               | 2165               |            |  |
|                                                                                                     | Examiner Name          | Neveen ABEL JALIL  |            |  |
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|                                                                                                     | Filing Date            |                    | 2013-06-26 |
|                                                                                                     | First Named Inventor   | Sharon Gill CHADHA |            |
|                                                                                                     | Art Unit               | 2165               |            |
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| <b>NON-PATENT LITERATURE DOCUMENTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |            |                                                                                                                                                                                                                                                                 |  | Remove                   |
| Examiner<br>Initials*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cite<br>No | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published. |  | T <sup>5</sup>           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1          |                                                                                                                                                                                                                                                                 |  | <input type="checkbox"/> |
| If you wish to add additional non-patent literature document citation information please click the Add button                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |                                                                                                                                                                                                                                                                 |  |                          |
| Add                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |                                                                                                                                                                                                                                                                 |  |                          |
| <b>EXAMINER SIGNATURE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |                                                                                                                                                                                                                                                                 |  |                          |
| Examiner Signature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |                                                                                                                                                                                                                                                                 |  | Date Considered          |
| *EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.                                                                                                                                                                                                                                                                                                                                                                                |            |                                                                                                                                                                                                                                                                 |  |                          |
| <p><sup>1</sup> See Kind Codes of USPTO Patent Documents at <a href="http://www.USPTO.GOV">www.USPTO.GOV</a> or MPEP 901.04. <sup>2</sup> Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>3</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>4</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>5</sup> Applicant is to place a check mark here if English language translation is attached.</p> |            |                                                                                                                                                                                                                                                                 |  |                          |

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
( Not for submission under 37 CFR 1.99)

|                        |                    |
|------------------------|--------------------|
| Application Number     | 13928313           |
| Filing Date            | 2013-06-26         |
| First Named Inventor   | Sharon Gill CHADHA |
| Art Unit               | 2165               |
| Examiner Name          | Neveen ABEL JALIL  |
| Attorney Docket Number | 79531-000002       |

**CERTIFICATION STATEMENT**

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

**OR**

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

**SIGNATURE**

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

|            |                     |                     |            |
|------------|---------------------|---------------------|------------|
| Signature  | /Puya Partow-Navid/ | Date (YYYY-MM-DD)   | 2013-10-21 |
| Name/Print | Puya Partow-Navid   | Registration Number | 59657      |

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

## Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

| Electronic Acknowledgement Receipt   |                                        |
|--------------------------------------|----------------------------------------|
| EFS ID:                              | 17185821                               |
| Application Number:                  | 13928313                               |
| International Application Number:    |                                        |
| Confirmation Number:                 | 2955                                   |
| Title of Invention:                  | REAL-TIME AND ADAPTIVE DATA MINING     |
| First Named Inventor/Applicant Name: | Sharon Gill CHADHA                     |
| Customer Number:                     | 98275                                  |
| Filer:                               | Puya Partow-Navid/Vanessa Jordan-Oster |
| Filer Authorized By:                 | Puya Partow-Navid                      |
| Attorney Docket Number:              | 79531-000002                           |
| Receipt Date:                        | 21-OCT-2013                            |
| Filing Date:                         | 26-JUN-2013                            |
| Time Stamp:                          | 17:56:54                               |
| Application Type:                    | Utility under 35 USC 111(a)            |

| Payment information:   |                                                    |                                     |                                                    |                  |                  |
|------------------------|----------------------------------------------------|-------------------------------------|----------------------------------------------------|------------------|------------------|
| Submitted with Payment |                                                    |                                     | no                                                 |                  |                  |
| File Listing:          |                                                    |                                     |                                                    |                  |                  |
| Document Number        | Document Description                               | File Name                           | File Size(Bytes)/ Message Digest                   | Multi Part /.zip | Pages (if appl.) |
| 1                      | Information Disclosure Statement (IDS) Form (SB08) | 79531-000002_IDS_21October 2013.pdf | 612414<br>118e39d5c137748ff3097c18f3813c053d81b12a | no               | 4                |
| Warnings:              |                                                    |                                     |                                                    |                  |                  |
| Information:           |                                                    |                                     |                                                    |                  |                  |

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**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|--------------------|-----------------------|-----------------------|------------------------|
| 13/928,313         | 06/26/2013            | Sharon Gill CHADHA    | 79531-000002           |

98275  
Seyfarth Shaw LLP  
2029 Century Park East, Suite 3500  
Los Angeles, CA 90067-3063

**CONFIRMATION NO. 2955**  
**IMPROPER CPOA LETTER**



Date Mailed: 09/30/2013

## NOTICE REGARDING POWER OF ATTORNEY

This is in response to the power of attorney filed 09/17/2013. The power of attorney in this application is not accepted for the reason(s) listed below:

- The revocation is not signed by the applicant, the assignee of the entire interest, or one particular principal attorney having the authority to revoke.

/tgebre/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

**TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE  
REGISTERED PRACTITIONERS**

**NOTE:** This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B or equivalent) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5. If the Power of Attorney by Applicant form is not accompanied by this transmittal form or an equivalent, the Power of Attorney will not be recognized in the application.

|                        |                                    |
|------------------------|------------------------------------|
| Application Number     | 13/928,313                         |
| Filing Date            | June 26, 2013                      |
| First Named Inventor   | Sharon Gill CHADHA                 |
| Title                  | REAL-TIME AND ADAPTIVE DATA MINING |
| Art Unit               | 2955                               |
| Examiner Name          | Neveen ABEL JALIL                  |
| Attorney Docket Number | 79531-000002                       |

**SIGNATURE of Applicant or Patent Practitioner**

|                     |                     |           |                    |
|---------------------|---------------------|-----------|--------------------|
| Signature           | /Puya Partow-Navid/ | Date      | September 17, 2013 |
| Name                | Puya Partow-Navid   | Telephone | 310.201.1550       |
| Registration Number | 59,657              |           |                    |

**NOTE:** This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications.

☐

\*Total of \_\_\_\_\_ forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

**POWER OF ATTORNEY BY APPLICANT**

I hereby revoke all previous powers of attorney given in the application identified in the attached transmittal letter.

- ☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

**98275****OR**

- ☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

| Name | Registration Number | Name | Registration Number |
|------|---------------------|------|---------------------|
|      |                     |      |                     |
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|      |                     |      |                     |

Please recognize or change the correspondence address for the application identified in the attached transmittal letter to:

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**OR**

- ☐ The address associated with Customer Number:

**OR**

☐ Firm or  
Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant:

- ☒ Inventor or Joint Inventor
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor
- ☐ Assignee or Person to Whom the Inventor is Under an Obligation to Assign
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document)

**SIGNATURE of Applicant for Patent**

|                   |                                                                                     |           |              |
|-------------------|-------------------------------------------------------------------------------------|-----------|--------------|
| Signature         |  | Date      | 19 June 2013 |
| Name              | Sharon Gill CHADHA                                                                  | Telephone |              |
| Title and Company | Inventor                                                                            |           |              |

**NOTE:** Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms for more than one signature, see below \*.

- ☒ \*Total of 3 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**POWER OF ATTORNEY BY APPLICANT**

I hereby revoke all previous powers of attorney given in the application identified in the attached transmittal letter.

- ☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

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- ☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

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|------|---------------------|------|---------------------|
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|      |                     |      |                     |

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**OR**

- ☐ The address associated with Customer Number:

**OR**

☐ Firm or  
Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant:

- ☒ Inventor or Joint Inventor
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor
- ☐ Assignee or Person to Whom the Inventor is Under an Obligation to Assign
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document)

**SIGNATURE of Applicant for Patent**

|                   |                                                                                     |           |                |
|-------------------|-------------------------------------------------------------------------------------|-----------|----------------|
| Signature         |  | Date      | 19 June 2013   |
| Name              | Xin CHENG                                                                           | Telephone | (858) 794-9171 |
| Title and Company | Inventor                                                                            |           |                |

**NOTE:** Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms for more than one signature, see below \*.

- ☒ \*Total of 3 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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| Name | Registration Number | Name | Registration Number |
|------|---------------------|------|---------------------|
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- ☐ The address associated with Customer Number:

**OR**

☐ Firm or  
Individual Name

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Telephone

Email

I am the Applicant:

- ☒ Inventor or Joint Inventor
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor
- ☐ Assignee or Person to Whom the Inventor is Under an Obligation to Assign
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document)

**SIGNATURE of Applicant for Patent**

|                   |                                                                                     |           |               |
|-------------------|-------------------------------------------------------------------------------------|-----------|---------------|
| Signature         |  | Date      | June 19, 2013 |
| Name              | Parvinder CHADHA                                                                    | Telephone | 310 857 6320  |
| Title and Company | Inventor                                                                            |           |               |

**NOTE:** Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms for more than one signature, see below \*.

☒ \*Total of 3 forms are submitted.

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| Electronic Acknowledgement Receipt   |                                    |
|--------------------------------------|------------------------------------|
| EFS ID:                              | 16881700                           |
| Application Number:                  | 13928313                           |
| International Application Number:    |                                    |
| Confirmation Number:                 | 2955                               |
| Title of Invention:                  | REAL-TIME AND ADAPTIVE DATA MINING |
| First Named Inventor/Applicant Name: | Sharon Gill CHADHA                 |
| Customer Number:                     | 98275                              |
| Filer:                               | Puya Partow-Navid/Anna Tounian     |
| Filer Authorized By:                 | Puya Partow-Navid                  |
| Attorney Docket Number:              | 79531-000002                       |
| Receipt Date:                        | 17-SEP-2013                        |
| Filing Date:                         | 26-JUN-2013                        |
| Time Stamp:                          | 20:28:45                           |
| Application Type:                    | Utility under 35 USC 111(a)        |

| Payment information:   |                      |                                         |                                          |                  |                  |
|------------------------|----------------------|-----------------------------------------|------------------------------------------|------------------|------------------|
| Submitted with Payment |                      |                                         | no                                       |                  |                  |
| File Listing:          |                      |                                         |                                          |                  |                  |
| Document Number        | Document Description | File Name                               | File Size(Bytes)/ Message Digest         | Multi Part /.zip | Pages (if appl.) |
| 1                      | Power of Attorney    | Rule14_POA-82A-82B_AsFiled_09-17-13.pdf | 621317                                   | no               | 4                |
|                        |                      |                                         | 753909babef6426069db497f11f391be5782c170 |                  |                  |
| Warnings:              |                      |                                         |                                          |                  |                  |
| Information:           |                      |                                         |                                          |                  |                  |

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**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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| APPLICATION<br>NUMBER | FILING or<br>371(c) DATE | GRP ART<br>UNIT | FIL FEE REC'D | ATTY. DOCKET NO | TOT CLAIMS | IND CLAIMS |
|-----------------------|--------------------------|-----------------|---------------|-----------------|------------|------------|
| 13/928,313            | 06/26/2013               |                 | 770           | 79531-000002    | 21         | 3          |

CONFIRMATION NO. 2955

98275

Seyfarth Shaw LLP

2029 Century Park East, Suite 3500

Los Angeles, CA 90067-3063

## FILING RECEIPT



\*OC000000062688852\*

Date Mailed: 07/25/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

### Inventor(s)

Sharon Gill CHADHA, Santa Monica, CA;

Xin CHENG, San Diego, CA;

Parvinder CHADHA, Santa Monica, CA;

### Applicant(s)

Rule 14, Santa Monica, CA

Power of Attorney: None

### Domestic Priority data as claimed by applicant

This appln claims benefit of 61/679,024 08/02/2012

**Foreign Applications** for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

*Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.*

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

**If Required, Foreign Filing License Granted:** 07/18/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/928,313**

**Projected Publication Date:** 02/06/2014

**Non-Publication Request:** No

**Early Publication Request:** No

**\*\* SMALL ENTITY \*\***

**Title**

REAL-TIME AND ADAPTIVE DATA MINING

**Preliminary Class**

**Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No**

## **PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES**

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

**LICENSE FOR FOREIGN FILING UNDER**  
**Title 35, United States Code, Section 184**  
**Title 37, Code of Federal Regulations, 5.11 & 5.15**

**GRANTED**

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

**NOT GRANTED**

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

|                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                               |                                    |               |                    |                    |                                            |                    |                               |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------|--------------------|--------------------|--------------------------------------------|--------------------|-------------------------------|--|
| <b>PATENT APPLICATION FEE DETERMINATION RECORD</b><br>Substitute for Form PTO-875                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                               |                                    |               |                    |                    | Application or Docket Number<br>13/928,313 |                    |                               |  |
| <b>APPLICATION AS FILED - PART I</b>                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                               |                                    |               |                    |                    |                                            |                    |                               |  |
| (Column 1)                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                               | (Column 2)                         |               | SMALL ENTITY       |                    | OR<br>OTHER THAN SMALL ENTITY              |                    |                               |  |
| FOR                                                                                                                                                                                                                                                                                                                                                                                                        | NUMBER FILED                                                                                                                                                                                                                  | NUMBER EXTRA                       |               | RATE(\$)           | FEE(\$)            | RATE(\$)                                   | FEE(\$)            |                               |  |
| BASIC FEE<br>(37 CFR 1.16(a), (b), or (c))                                                                                                                                                                                                                                                                                                                                                                 | N/A                                                                                                                                                                                                                           | N/A                                |               | N/A                | 70                 | N/A                                        |                    |                               |  |
| SEARCH FEE<br>(37 CFR 1.16(k), (l), or (m))                                                                                                                                                                                                                                                                                                                                                                | N/A                                                                                                                                                                                                                           | N/A                                |               | N/A                | 300                | N/A                                        |                    |                               |  |
| EXAMINATION FEE<br>(37 CFR 1.16(o), (p), or (q))                                                                                                                                                                                                                                                                                                                                                           | N/A                                                                                                                                                                                                                           | N/A                                |               | N/A                | 360                | N/A                                        |                    |                               |  |
| TOTAL CLAIMS<br>(37 CFR 1.16(j))                                                                                                                                                                                                                                                                                                                                                                           | 21                                                                                                                                                                                                                            | minus 20 =                         | *             | x 40 =             | 40                 |                                            |                    |                               |  |
| INDEPENDENT CLAIMS<br>(37 CFR 1.16(h))                                                                                                                                                                                                                                                                                                                                                                     | 3                                                                                                                                                                                                                             | minus 3 =                          | *             | x 210 =            | 0.00               |                                            |                    |                               |  |
| APPLICATION SIZE FEE<br>(37 CFR 1.16(s))                                                                                                                                                                                                                                                                                                                                                                   | If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). |                                    |               |                    | 0.00               |                                            |                    |                               |  |
| MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                               |                                    |               |                    | 0.00               |                                            |                    |                               |  |
| * If the difference in column 1 is less than zero, enter "0" in column 2.                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                               |                                    |               | TOTAL              | 770                | TOTAL                                      |                    |                               |  |
| <b>APPLICATION AS AMENDED - PART II</b>                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                               |                                    |               |                    |                    |                                            |                    |                               |  |
| (Column 1)                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                               | (Column 2)                         |               | (Column 3)         |                    | SMALL ENTITY                               |                    | OR<br>OTHER THAN SMALL ENTITY |  |
| AMENDMENT A                                                                                                                                                                                                                                                                                                                                                                                                | CLAIMS REMAINING AFTER AMENDMENT                                                                                                                                                                                              | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | RATE(\$)           | ADDITIONAL FEE(\$) | RATE(\$)                                   | ADDITIONAL FEE(\$) |                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Total<br>(37 CFR 1.16(i))                                                                                                                                                                                                     | *                                  | Minus **      | =                  | x =                | x =                                        | =                  |                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Independent<br>(37 CFR 1.16(h))                                                                                                                                                                                               | *                                  | Minus ***     | =                  | x =                | x =                                        | =                  |                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Application Size Fee (37 CFR 1.16(s))                                                                                                                                                                                         |                                    |               |                    |                    |                                            |                    |                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                            | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))                                                                                                                                                               |                                    |               |                    |                    |                                            |                    |                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                               |                                    |               | TOTAL<br>ADD'L FEE |                    | TOTAL<br>ADD'L FEE                         |                    |                               |  |
| AMENDMENT B                                                                                                                                                                                                                                                                                                                                                                                                | CLAIMS REMAINING AFTER AMENDMENT                                                                                                                                                                                              | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | RATE(\$)           | ADDITIONAL FEE(\$) | RATE(\$)                                   | ADDITIONAL FEE(\$) |                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Total<br>(37 CFR 1.16(i))                                                                                                                                                                                                     | *                                  | Minus **      | =                  | x =                | x =                                        | =                  |                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Independent<br>(37 CFR 1.16(h))                                                                                                                                                                                               | *                                  | Minus ***     | =                  | x =                | x =                                        | =                  |                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                            | Application Size Fee (37 CFR 1.16(s))                                                                                                                                                                                         |                                    |               |                    |                    |                                            |                    |                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                            | FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))                                                                                                                                                               |                                    |               |                    |                    |                                            |                    |                               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                               |                                    |               | TOTAL<br>ADD'L FEE |                    | TOTAL<br>ADD'L FEE                         |                    |                               |  |
| * If the entry in column 1 is less than the entry in column 2, write "0" in column 3.<br>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".<br>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".<br>The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1. |                                                                                                                                                                                                                               |                                    |               |                    |                    |                                            |                    |                               |  |



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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|--------------------|-----------------------|-----------------------|------------------------|
| 13/928,313         | 06/26/2013            | Sharon Gill CHADHA    | 79531-000002           |

98275  
Seyfarth Shaw LLP  
2029 Century Park East, Suite 3500  
Los Angeles, CA 90067-3063

**CONFIRMATION NO. 2955**  
**IMPROPER CFR REQUEST**



Date Mailed: 07/25/2013

## RESPONSE TO REQUEST FOR CORRECTED FILING RECEIPT

### *Power of Attorney, Claims, Fees, System Limitations, and Miscellaneous*

In response to your request for a corrected Filing Receipt, the Office is unable to comply with your request because:

- Any request to correct or update the name of the applicant must include an application data sheet (ADS) in compliance with 37 CFR 1.76 specifying the correct or updated name of the applicant in the applicant information section. Any request to change the applicant after an original applicant has been specified under 37 CFR 1.46(b) must include a new ADS in compliance with 37 CFR 1.76 specifying the applicant in the applicant information section and comply with 37 CFR 3.71 and 3.73. See 37 CFR 1.46(c).

/hkquach/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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| APPLICATION NUMBER | FILING OR 371(C) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
|--------------------|-----------------------|-----------------------|------------------------|
| 13/928,313         | 06/26/2013            | Sharon Gill CHADHA    | 79531-000002           |

98275  
Seyfarth Shaw LLP  
2029 Century Park East, Suite 3500  
Los Angeles, CA 90067-3063

**CONFIRMATION NO. 2955**  
**IMPROPER CPOA LETTER**



Date Mailed: 07/25/2013

## NOTICE REGARDING POWER OF ATTORNEY

This is in response to the power of attorney filed 06/26/2013. The power of attorney in this application is not accepted for the reason(s) listed below:

- The power of attorney has not been accepted because the party who is giving power of attorney has not been identified. Power of attorney may only be signed by the applicant for patent (37 CFR 1.42) or the patent owner. A patent owner who was not the applicant must appoint any power of attorney in compliance with 37 CFR 3.71 and 3.73. See 37 CFR 1.32(b)(4).

/hkquach/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

**POWER OF ATTORNEY BY APPLICANT**

I hereby revoke all previous powers of attorney given in the application identified in the attached transmittal letter.

- ☒ I hereby appoint Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

**98275****OR**

- ☐ I hereby appoint Practitioner(s) named below as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A or equivalent):

| Name | Registration Number | Name | Registration Number |
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**OR**

- ☐ The address associated with Customer Number:

**OR**

☐ Firm or  
Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant:

- ☒ Inventor or Joint Inventor
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor
- ☐ Assignee or Person to Whom the Inventor is Under an Obligation to Assign
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document)

**SIGNATURE of Applicant for Patent**

|                   |                                                                                     |           |              |
|-------------------|-------------------------------------------------------------------------------------|-----------|--------------|
| Signature         |  | Date      | 19 June 2013 |
| Name              | Sharon Gill CHADHA                                                                  | Telephone |              |
| Title and Company | Inventor                                                                            |           |              |

**NOTE:** Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms for more than one signature, see below \*.

- ☒ \*Total of 3 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

**POWER OF ATTORNEY BY APPLICANT**

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**98275****OR**

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**OR**

- ☐ The address associated with Customer Number:

**OR**

☐ Firm or  
Individual Name

Address

City

State

Zip

Country

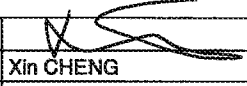
Telephone

Email

I am the Applicant:

- ☒ Inventor or Joint Inventor
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor
- ☐ Assignee or Person to Whom the Inventor is Under an Obligation to Assign
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document)

**SIGNATURE of Applicant for Patent**

|                   |                                                                                     |           |                |
|-------------------|-------------------------------------------------------------------------------------|-----------|----------------|
| Signature         |  | Date      | 19 June 2013   |
| Name              | Xin CHENG                                                                           | Telephone | (858) 794-9171 |
| Title and Company | Inventor                                                                            |           |                |

**NOTE:** Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms for more than one signature, see below \*.

- ☒ \*Total of 3 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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- ☐ The address associated with Customer Number:

**OR**

☐ Firm or  
Individual Name

Address

City

State

Zip

Country

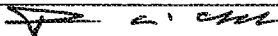
Telephone

Email

I am the Applicant:

- ☒ Inventor or Joint Inventor
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor
- ☐ Assignee or Person to Whom the Inventor is Under an Obligation to Assign
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document)

**SIGNATURE of Applicant for Patent**

|                   |                                                                                     |           |               |
|-------------------|-------------------------------------------------------------------------------------|-----------|---------------|
| Signature         |  | Date      | June 19, 2013 |
| Name              | Parvinder CHADHA                                                                    | Telephone | 310 857 6320  |
| Title and Company | Inventor                                                                            |           |               |

**NOTE:** Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms for more than one signature, see below \*.

- ☒ \*Total of 3 forms are submitted.

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                    |                        |              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------|--------------|
| Application Data Sheet 37 CFR 1.76                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                    | Attorney Docket Number | 79531-000002 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                    | Application Number     |              |
| Title of Invention                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | REAL-TIME AND ADAPTIVE DATA MINING |                        |              |
| The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application. |                                    |                        |              |

Secrecy Order 37 CFR 5.2

|                          |                                                                                                                                                                                                                                       |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.) |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Inventor Information:

|                                                                                                                                                                          |              |                          |             |                           |        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------------|-------------|---------------------------|--------|
| Inventor 1                                                                                                                                                               |              |                          |             |                           | Remove |
| Legal Name                                                                                                                                                               |              |                          |             |                           |        |
| Prefix                                                                                                                                                                   | Given Name   | Middle Name              | Family Name | Suffix                    |        |
|                                                                                                                                                                          | Sharon       | Gill                     | CHADHA      |                           |        |
| Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service |              |                          |             |                           |        |
| City                                                                                                                                                                     | Santa Monica | State/Province           | CA          | Country of Residence i US |        |
| Mailing Address of Inventor:                                                                                                                                             |              |                          |             |                           |        |
| Address 1                                                                                                                                                                |              | 3003 Pennsylvania Avenue |             |                           |        |
| Address 2                                                                                                                                                                |              |                          |             |                           |        |
| City                                                                                                                                                                     | Santa Monica | State/Province           | CA          |                           |        |
| Postal Code                                                                                                                                                              | 90404        | Country i                | US          |                           |        |
| Inventor 2                                                                                                                                                               |              |                          |             |                           | Remove |
| Legal Name                                                                                                                                                               |              |                          |             |                           |        |
| Prefix                                                                                                                                                                   | Given Name   | Middle Name              | Family Name | Suffix                    |        |
|                                                                                                                                                                          | Xin          |                          | CHENG       |                           |        |
| Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service |              |                          |             |                           |        |
| City                                                                                                                                                                     | San Diego    | State/Province           | CA          | Country of Residence i US |        |
| Mailing Address of Inventor:                                                                                                                                             |              |                          |             |                           |        |
| Address 1                                                                                                                                                                |              | 3003 Pennsylvania Avenue |             |                           |        |
| Address 2                                                                                                                                                                |              |                          |             |                           |        |
| City                                                                                                                                                                     | Santa Monica | State/Province           | CA          |                           |        |
| Postal Code                                                                                                                                                              | 90404        | Country i                | US          |                           |        |
| Inventor 3                                                                                                                                                               |              |                          |             |                           | Remove |
| Legal Name                                                                                                                                                               |              |                          |             |                           |        |
| Prefix                                                                                                                                                                   | Given Name   | Middle Name              | Family Name | Suffix                    |        |
|                                                                                                                                                                          | Parvinder    |                          | CHADHA      |                           |        |
| Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service |              |                          |             |                           |        |

|                                                                                                                                             |              |                                    |    |                        |                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------|----|------------------------|------------------------------------|
| <b>Application Data Sheet 37 CFR 1.76</b>                                                                                                   |              | Attorney Docket Number             |    | 79531-000002           |                                    |
|                                                                                                                                             |              | Application Number                 |    |                        |                                    |
| Title of Invention                                                                                                                          |              | REAL-TIME AND ADAPTIVE DATA MINING |    |                        |                                    |
| City                                                                                                                                        | Santa Monica | State/Province                     | CA | Country of Residence i | US                                 |
| <b>Mailing Address of Inventor:</b>                                                                                                         |              |                                    |    |                        |                                    |
| Address 1                                                                                                                                   |              | 3003 Pennsylvania Avenue           |    |                        |                                    |
| Address 2                                                                                                                                   |              |                                    |    |                        |                                    |
| City                                                                                                                                        | Santa Monica | State/Province                     | CA |                        |                                    |
| Postal Code                                                                                                                                 | 90404        | Country i                          | US |                        |                                    |
| All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the <b>Add</b> button. |              |                                    |    |                        | <input type="button" value="Add"/> |

## Correspondence Information:

|                                                                                                                                       |                         |                                          |                                             |
|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------------------|---------------------------------------------|
| Enter either Customer Number or complete the Correspondence Information section below.<br>For further information see 37 CFR 1.33(a). |                         |                                          |                                             |
| <input type="checkbox"/> An Address is being provided for the correspondence Information of this application.                         |                         |                                          |                                             |
| Customer Number                                                                                                                       | 98275                   |                                          |                                             |
| Email Address                                                                                                                         | s-docketcc@seyfarth.com | <input type="button" value="Add Email"/> | <input type="button" value="Remove Email"/> |

## Application Information:

|                                         |                                    |                                                                 |  |   |  |
|-----------------------------------------|------------------------------------|-----------------------------------------------------------------|--|---|--|
| Title of the Invention                  | REAL-TIME AND ADAPTIVE DATA MINING |                                                                 |  |   |  |
| Attorney Docket Number                  | 79531-000002                       | Small Entity Status Claimed <input checked="" type="checkbox"/> |  |   |  |
| Application Type                        | Nonprovisional                     |                                                                 |  |   |  |
| Subject Matter                          | Utility                            |                                                                 |  |   |  |
| Total Number of Drawing Sheets (if any) | 14                                 | Suggested Figure for Publication (if any)                       |  | 1 |  |

## Publication Information:

|                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Request Early Publication (Fee required at time of Request 37 CFR 1.219)                                                                                                                                                                                                                                                                                                                      |
| <input type="checkbox"/> <b>Request Not to Publish.</b> I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application <b>has not and will not</b> be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing. |

## Representative Information:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                  |                                              |                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------|---------------------------------------------------------|
| Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing. |                                                  |                                              |                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                  |                                              |                                                         |
| Please Select One:                                                                                                                                                                                                                                                                                                                                                                                                                                              | <input checked="" type="radio"/> Customer Number | <input type="radio"/> US Patent Practitioner | <input type="radio"/> Limited Recognition (37 CFR 11.9) |

|                                    |                                    |                        |              |
|------------------------------------|------------------------------------|------------------------|--------------|
| Application Data Sheet 37 CFR 1.76 |                                    | Attorney Docket Number | 79531-000002 |
|                                    |                                    | Application Number     |              |
| Title of Invention                 | REAL-TIME AND ADAPTIVE DATA MINING |                        |              |
| Customer Number                    | 98275                              |                        |              |

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

|                          |                    |                          |                          |
|--------------------------|--------------------|--------------------------|--------------------------|
| Prior Application Status | Pending            | Remove                   |                          |
| Application Number       | Continuity Type    | Prior Application Number | Filing Date (YYYY-MM-DD) |
|                          | non provisional of | 61679024                 | 2012-08-02               |

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.

Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

|                    |                      |                          |                                          |
|--------------------|----------------------|--------------------------|------------------------------------------|
| Remove             |                      |                          |                                          |
| Application Number | Country <sup>i</sup> | Filing Date (YYYY-MM-DD) | Access Code <sup>j</sup> (if applicable) |
|                    |                      |                          |                                          |

Additional Foreign Priority Data may be generated within this form by selecting the Add button.

Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

Authorization to Permit Access:

|                                           |                                    |                        |              |
|-------------------------------------------|------------------------------------|------------------------|--------------|
| <b>Application Data Sheet 37 CFR 1.76</b> |                                    | Attorney Docket Number | 79531-000002 |
|                                           |                                    | Application Number     |              |
| Title of Invention                        | REAL-TIME AND ADAPTIVE DATA MINING |                        |              |

☒ Authorization to Permit Access to the Instant Application by the Participating Offices

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

## Applicant Information:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                        |                                       |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------|--|--|
| Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                        |                                       |  |  |
| <b>Applicant 1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                        | <input type="button" value="Remove"/> |  |  |
| If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section. |                                                                        |                                       |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                        | <input type="button" value="Clear"/>  |  |  |
| <input checked="" type="radio"/> Assignee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="radio"/> Legal Representative under 35 U.S.C. 117         | <input type="radio"/> Joint Inventor  |  |  |
| <input type="radio"/> Person to whom the inventor is obligated to assign.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <input type="radio"/> Person who shows sufficient proprietary interest |                                       |  |  |
| If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                        |                                       |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                        |                                       |  |  |
| Name of the Deceased or Legally Incapacitated Inventor :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                        |                                       |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                        |                                       |  |  |
| If the Applicant is an Organization check here. <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                        |                                       |  |  |
| Organization Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Rule 14                                                                |                                       |  |  |

|                                           |                                    |                        |              |
|-------------------------------------------|------------------------------------|------------------------|--------------|
| <b>Application Data Sheet 37 CFR 1.76</b> |                                    | Attorney Docket Number | 79531-000002 |
|                                           |                                    | Application Number     |              |
| Title of Invention                        | REAL-TIME AND ADAPTIVE DATA MINING |                        |              |

|                                                                                                           |              |                          |       |
|-----------------------------------------------------------------------------------------------------------|--------------|--------------------------|-------|
| <b>Mailing Address Information:</b>                                                                       |              |                          |       |
| Address 1                                                                                                 |              | 3003 Pennsylvania Avenue |       |
| Address 2                                                                                                 |              |                          |       |
| City                                                                                                      | Santa Monica | State/Province           | CA    |
| Country i                                                                                                 | US           | Postal Code              | 90404 |
| Phone Number                                                                                              |              | Fax Number               |       |
| Email Address                                                                                             |              |                          |       |
| Additional Applicant Data may be generated within this form by selecting the Add button. <span>Add</span> |              |                          |       |

## Non-Applicant Assignee Information:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |                |             |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------|-------------|--------|
| Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.                                                                                                                                                                                                                                                                |            |                |             |        |
| <b>Assignee 1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |                |             |        |
| Complete this section only if non-applicant assignee information is desired to be included on the patent application publication in accordance with 37 CFR 1.215(b). Do not include in this section an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest), as the patent application publication will include the name of the applicant(s). |            |                |             |        |
| <span>Remove</span>                                                                                                                                                                                                                                                                                                                                                                                                                                |            |                |             |        |
| If the Assignee is an Organization check here. <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                            |            |                |             |        |
| Prefix                                                                                                                                                                                                                                                                                                                                                                                                                                             | Given Name | Middle Name    | Family Name | Suffix |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |                |             |        |
| <b>Mailing Address Information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                |            |                |             |        |
| Address 1                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |                |             |        |
| Address 2                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |                |             |        |
| City                                                                                                                                                                                                                                                                                                                                                                                                                                               |            | State/Province |             |        |
| Country i                                                                                                                                                                                                                                                                                                                                                                                                                                          |            | Postal Code    |             |        |
| Phone Number                                                                                                                                                                                                                                                                                                                                                                                                                                       |            | Fax Number     |             |        |
| Email Address                                                                                                                                                                                                                                                                                                                                                                                                                                      |            |                |             |        |
| Additional Assignee Data may be generated within this form by selecting the Add button. <span>Add</span>                                                                                                                                                                                                                                                                                                                                           |            |                |             |        |

|                                           |                                    |                        |              |
|-------------------------------------------|------------------------------------|------------------------|--------------|
| <b>Application Data Sheet 37 CFR 1.76</b> |                                    | Attorney Docket Number | 79531-000002 |
|                                           |                                    | Application Number     |              |
| Title of Invention                        | REAL-TIME AND ADAPTIVE DATA MINING |                        |              |

**Signature:**[Remove](#)

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications

|            |                     |           |                   |                     |       |
|------------|---------------------|-----------|-------------------|---------------------|-------|
| Signature  | /Puya Partow-Navid/ |           | Date (YYYY-MM-DD) | 2013-06-26          |       |
| First Name | Puya                | Last Name | Partow-Navid      | Registration Number | 59657 |

Additional Signature may be generated within this form by selecting the Add button.

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This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

# Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

| Electronic Patent Application Fee Transmittal |          |                                    |        |                      |
|-----------------------------------------------|----------|------------------------------------|--------|----------------------|
| Application Number:                           |          |                                    |        |                      |
| Filing Date:                                  |          |                                    |        |                      |
| Title of Invention:                           |          | REAL-TIME AND ADAPTIVE DATA MINING |        |                      |
| First Named Inventor/Applicant Name:          |          | Sharon Gill CHADHA                 |        |                      |
| Filer:                                        |          | Puya Partow-Navid/Anna Tounian     |        |                      |
| Attorney Docket Number:                       |          | 79531-000002                       |        |                      |
| Filed as Small Entity                         |          |                                    |        |                      |
| Utility under 35 USC 111(a) Filing Fees       |          |                                    |        |                      |
| Description                                   | Fee Code | Quantity                           | Amount | Sub-Total in USD(\$) |
| Basic Filing:                                 |          |                                    |        |                      |
| Utility filing Fee (Electronic filing)        | 4011     | 1                                  | 70     | 70                   |
| Utility Search Fee                            | 2111     | 1                                  | 300    | 300                  |
| Utility Examination Fee                       | 2311     | 1                                  | 360    | 360                  |
| Pages:                                        |          |                                    |        |                      |
| Claims:                                       |          |                                    |        |                      |
| Claims in excess of 20                        | 2202     | 1                                  | 40     | 40                   |
| Miscellaneous-Filing:                         |          |                                    |        |                      |
| Petition:                                     |          |                                    |        |                      |

| Description                       | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|-----------------------------------|----------|----------|--------|----------------------|
| Patent-Appeals-and-Interference:  |          |          |        |                      |
| Post-Allowance-and-Post-Issuance: |          |          |        |                      |
| Extension-of-Time:                |          |          |        |                      |
| Miscellaneous:                    |          |          |        |                      |
| Total in USD (\$)                 |          |          |        | 770                  |

| Electronic Acknowledgement Receipt   |                                    |
|--------------------------------------|------------------------------------|
| EFS ID:                              | 16166582                           |
| Application Number:                  | 13928313                           |
| International Application Number:    |                                    |
| Confirmation Number:                 | 2955                               |
| Title of Invention:                  | REAL-TIME AND ADAPTIVE DATA MINING |
| First Named Inventor/Applicant Name: | Sharon Gill CHADHA                 |
| Customer Number:                     | 98275                              |
| Filer:                               | Puya Partow-Navid/Anna Tounian     |
| Filer Authorized By:                 | Puya Partow-Navid                  |
| Attorney Docket Number:              | 79531-000002                       |
| Receipt Date:                        | 26-JUN-2013                        |
| Filing Date:                         |                                    |
| Time Stamp:                          | 21:09:52                           |
| Application Type:                    | Utility under 35 USC 111(a)        |

| Payment information:                                                                                                                                                                                                                                                                                                                                                      |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Submitted with Payment                                                                                                                                                                                                                                                                                                                                                    | yes             |
| Payment Type                                                                                                                                                                                                                                                                                                                                                              | Deposit Account |
| Payment was successfully received in RAM                                                                                                                                                                                                                                                                                                                                  | \$770           |
| RAM confirmation Number                                                                                                                                                                                                                                                                                                                                                   | 7901            |
| Deposit Account                                                                                                                                                                                                                                                                                                                                                           | 502291          |
| Authorized User                                                                                                                                                                                                                                                                                                                                                           |                 |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:<br>Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)<br>Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees) |                 |

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

## File Listing:

| Document Number | Document Description                                | File Name                               | File Size(Bytes)/ Message Digest         | Multi Part /.zip | Pages (if appl.) |
|-----------------|-----------------------------------------------------|-----------------------------------------|------------------------------------------|------------------|------------------|
| 1               |                                                     | Rule14_App_AsFiled_06-26-13.PDF         | 183414                                   | yes              | 34               |
|                 |                                                     |                                         | b52afda4e3aae766a5ac0cb468d2f7b683fa448  |                  |                  |
|                 | Multipart Description/PDF files in .zip description |                                         |                                          |                  |                  |
|                 | Document Description                                | Start                                   | End                                      |                  |                  |
|                 | Specification                                       | 1                                       | 29                                       |                  |                  |
|                 | Claims                                              | 30                                      | 33                                       |                  |                  |
|                 | Abstract                                            | 34                                      | 34                                       |                  |                  |
| Warnings:       |                                                     |                                         |                                          |                  |                  |
| Information:    |                                                     |                                         |                                          |                  |                  |
| 2               | Drawings-only black and white line drawings         | Rule14_Figures_AsFiled_06-26-13.PDF     | 341098                                   | no               | 14               |
|                 |                                                     |                                         | 6f442585642f857b88de62709ddcc8392208d744 |                  |                  |
| Warnings:       |                                                     |                                         |                                          |                  |                  |
| Information:    |                                                     |                                         |                                          |                  |                  |
| 3               | Oath or Declaration filed                           | Rule14_Declaration_AsFiled_06-26-13.pdf | 440628                                   | no               | 3                |
|                 |                                                     |                                         | 19718090cdb738d5689ec7db218900c06a2aafb2 |                  |                  |
| Warnings:       |                                                     |                                         |                                          |                  |                  |
| Information:    |                                                     |                                         |                                          |                  |                  |
| 4               | Power of Attorney                                   | Rule14_POA_AsFiled_06-26-13.pdf         | 403335                                   | no               | 3                |
|                 |                                                     |                                         | d2f9e6d13cf20d4dc1b38aafdd140d374e91ecf3 |                  |                  |
| Warnings:       |                                                     |                                         |                                          |                  |                  |
| Information:    |                                                     |                                         |                                          |                  |                  |
| 5               | Application Data Sheet                              | Rule14_ADS_AsFiled_06-26-13.PDF         | 3011977                                  | no               | 7                |
|                 |                                                     |                                         | 7092957cbde406454bcbf9d07c63610b253ee994 |                  |                  |
| Warnings:       |                                                     |                                         |                                          |                  |                  |
| Information:    |                                                     |                                         |                                          |                  |                  |
| 6               | Fee Worksheet (SB06)                                | fee-info.pdf                            | 36392                                    | no               | 2                |
|                 |                                                     |                                         | e79aa928467676cab9a91ba93838ac5eb2c27c2  |                  |                  |
| Warnings:       |                                                     |                                         |                                          |                  |                  |
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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

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If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

## **REAL-TIME AND ADAPTIVE DATA MINING**

### **CROSS-REFERENCE TO RELATED APPLICATION**

**[0001]** This application claims the benefit under 35 U.S.C. § 119(e) to United States Provisional Patent Application No. 61/679,024 entitled “LOSS PREVENTION SERVICES PLATFORM BASED ON MACHINE LEARNING,” filed on August 2, 2012, the disclosure of which is expressly incorporated by reference herein in its entirety.

### **BACKGROUND**

#### **Field**

**[0002]** Aspects of the present disclosure relate generally to data mining, and more particularly to providing a real-time data mining platform and interactive feedback platform.

#### **Background**

**[0003]** The Internet provides and generates large amounts of data on a daily basis. The data may be monitored from data sources, such as, but not limited to, social media, web feeds, customer feedback, internal company databases, and proprietary data silos. With the proper tools, the data extracted from the data sources may be used to provide analysis for various topics. For example, the extracted data may indicate patterns for domestic unrest or a customer’s habits/patterns. More specifically, as an example, the extracted data may yield a consumers financial profile, retail history, social influences, and expressed interests.

**[0004]** Typical search engines are not designed for analyzing multiple data points in real time. Furthermore, the query of a search engine is limited to the exact search term. Moreover, a typical search engine is limited to querying indexed web sites. That is, search engines are typically limited to searching structured data sources. By some accounts, nearly seventy percent of web pages are not indexed by search engines. The non-indexed web pages may be, for example, proprietary data silos, web sites behind firewalls, and/or comment sections on a web page. Accordingly, the information obtained via search engines is limited and is not desirable for real-time data analysis that is specified for automated data extraction.

**[0005]** Thus, as the demand for real-time information continues to increase, there exists a need for further improvements in data mining and web searching technologies. Preferably, these improvements should be applicable to all real-time data extraction technologies and the digital systems that employ these technologies.

**[0006]** This has outlined, rather broadly, the features and technical advantages of the present disclosure in order that the detailed description that follows may be better understood. Additional features and advantages of the disclosure will be described below. It should be appreciated by those skilled in the art that this disclosure may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes of the present disclosure. It should also be realized by those skilled in the art that such equivalent constructions do not depart from the teachings of the disclosure as set forth in the appended claims. The novel features, which are believed to be characteristic of the disclosure, both as to its organization and method of operation, together with further objects and advantages, will be better understood from the following description when considered in connection with the accompanying figures. It is to be expressly understood, however, that each of the figures is provided for the purpose of illustration and description only and is not intended as a definition of the limits of the present disclosure.

## SUMMARY

**[0007]** According to an aspect of the present disclosure, a method of analyzing data is presented. The method includes generating a query based on a topic of interest. The method also includes expanding search terms of the query. The method further includes executing the query on one or more data sources. The method still further includes monitoring a specific data source selected from the one or more data sources. The monitoring is performed to monitor for matches to the query.

**[0008]** According to another aspect of the present disclosure, an apparatus for analyzing data is presented. The apparatus includes a memory unit and a processor(s) coupled to the memory unit. The processor(s) is configured to generate a query based on a topic of interest. The processor(s) is also configured to expand search terms of the query. The processor(s) is further configured to execute the query on one or more data sources. The processor(s) is still

further configured to monitor a specific data source selected from the one or more data sources. The monitoring is performed to monitor for matches to the query.

**[0009]** In yet another aspect of the present disclosure, a computer program product for data analysis having a non-transitory computer-readable medium is disclosed. The computer readable medium has non-transitory program code recorded thereon which, when executed by the processor(s), causes the processor(s) to perform operations of generating a query based on a topic of interest. The program code also causes the processor(s) to expand search terms of the query. The program code further causes the processor(s) to execute the query on one or more data sources. The program code still further causes the processor(s) to monitor a specific data source selected from the one or more data sources. The monitoring is performed to monitor for matches to the query.

**[0010]** Additional features and advantages of the disclosure will be described below. It should be appreciated by those skilled in the art that this disclosure may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes of the present disclosure. It should also be realized by those skilled in the art that such equivalent constructions do not depart from the teachings of the disclosure as set forth in the appended claims. The novel features, which are believed to be characteristic of the disclosure, both as to its organization and method of operation, together with further objects and advantages, will be better understood from the following description when considered in connection with the accompanying figures. It is to be expressly understood, however, that each of the figures is provided for the purpose of illustration and description only and is not intended as a definition of the limits of the present disclosure.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

**[0011]** The features, nature, and advantages of the present disclosure will become more apparent from the detailed description set forth below when taken in conjunction with the drawings in which like reference characters identify correspondingly throughout.

**[0012]** FIGURE 1 is a diagram illustrating a call flow for a data mining system according to an aspect of the present disclosure.

[0013] FIGURE 2 is a block diagram for a data mining system according to an aspect of the present disclosure.

[0014] FIGURE 3 illustrates various data visualization schemes according to aspects of the present disclosure.

[0015] FIGURES 4-8 are block diagrams for a data mining system according to aspects of the present disclosure.

[0016] FIGURE 9 illustrates a hierarchy of security rights according to an aspect of the present disclosure.

[0017] FIGURES 10A and 10B illustrate typical sequential data extraction schemes.

[0018] FIGURE 10C illustrates a parallel data extraction scheme according to an aspect of the present disclosure.

[0019] FIGURES 11 and 12 illustrate examples of data extraction and analysis according to an aspect of the present disclosure.

## **DETAILED DESCRIPTION**

[0020] The detailed description set forth below, in connection with the appended drawings, is intended as a description of various configurations and is not intended to represent the only configurations in which the concepts described herein may be practiced. The detailed description includes specific details for the purpose of providing a thorough understanding of the various concepts. However, it will be apparent to those skilled in the art that these concepts may be practiced without these specific details. In some instances, well-known structures and components are shown in block diagram form in order to avoid obscuring such concepts.

[0021] Aspects of the data mining systems are presented with reference to various apparatus and methods. These apparatus and methods are described in the following detailed description and illustrated in the accompanying drawings by various blocks, modules, components, circuits, steps, processes, algorithms, etc. (collectively referred to as “elements”). These elements may be implemented using electronic hardware, computer software, or any combination thereof. Whether such elements are implemented as hardware or software depends upon the particular application and design constraints imposed on the overall system.

**[0022]** By way of example, an element, or any portion of an element, or any combination of elements may be implemented with a “processing system” that includes one or more processors. Examples of processors include microprocessors, microcontrollers, digital signal processors (DSPs), field programmable gate arrays (FPGAs), programmable logic devices (PLDs), state machines, gated logic, discrete hardware circuits, and other suitable hardware configured to perform the various functionality described throughout this disclosure. One or more processors in the processing system may execute software. Software shall be construed broadly to mean instructions, instruction sets, code, code segments, program code, programs, subprograms, software modules, applications, software applications, software packages, routines, subroutines, objects, executables, threads of execution, procedures, functions, etc., whether referred to as software, firmware, middleware, microcode, hardware description language, or otherwise.

**[0023]** Accordingly, in one or more exemplary embodiments, the functions described may be implemented in hardware, software, firmware, or any combination thereof. If implemented in software, the functions may be stored on or encoded as one or more instructions or code on a non-transitory computer-readable medium. Computer-readable media includes computer storage media. Storage media may be any available media that can be accessed by a computer. By way of example, and not limitation, such computer-readable media can comprise RAM, ROM, EEPROM, CD-ROM or other optical disk storage, magnetic disk storage or other magnetic storage devices, or any other medium that can be used to carry or store desired program code in the form of instructions or data structures and that can be accessed by a computer. Disk and disc, as used herein, includes compact disc (CD), laser disc, optical disc, digital versatile disc (DVD), floppy disk and Blu-ray disc where disks usually reproduce data magnetically, while discs reproduce data optically with lasers. Combinations of the above should also be included within the scope of computer-readable media.

**[0024]** FIGURE 1 is a diagram illustrating a call flow for a data mining system 100 according to an aspect of the present disclosure. At block 102 a query is generated. The query may be a natural language query generated by a user. Alternatively, the query generation may be automated from a query generator. The query generator may be based on artificial intelligence or a similar system.

**[0025]** At block 104 the query is expanded. In one configuration, the search terms of the query are expanded based on search lexicons. For example, the lexicons may be applied to expand the search using misspellings and derivations of the topic of interest/sub-topics. The lexicon may be generated based on user input and/or may be generated based on automatic word association, such as synonym/antonym trees and lexicons of positive and/or negative modifiers. The expansion of the query at block 104 may be performed by a user and/or may be automated.

**[0026]** At block 106, the query is executed. The query may be executed on open-source data and proprietary data. Specifically, in one configuration, the query may be limited to specific data sources (e.g., proprietary data sources and open-source data sources). In another configuration, the query searches all available data sources. In yet another configuration, the initial pass of the query is limited to open-source data sources.

**[0027]** Open-source data refers to publicly available data, such as data available via Wikipedia or the CIA fact book, for example. Sources that are indexed by search engines are also considered open-source data. Open-source data may also refer to data that is not proprietary but still not indexed by a search engine. For example, some sources, such as a blog, may include a comments section. The comments may be updated in real time and are typically not indexed by a search engine. Thus, because the comments are not indexed by a search engine, the contents of the comments are not available when conducting a search. Still, the information in the comments is publically available to anyone that visits a particular source. Therefore, the comments section, or any other non-indexed source may be considered open-source data.

**[0028]** Proprietary data is data that may not be searchable via a search engine because the proprietary data is not publically available. This may include classified databases, data behind a firewall, or data that is available via a paid subscription, such as Lexis.

**[0029]** At block 108 the results of the query are reviewed. If the results are satisfactory, specific data sources may be selected to be monitored. If the results are not satisfactory, the query may be expanded and/or refined at block 104. The refinement of the query may be refined based on data sources selected at block 108. At block 110 the selected data sources are monitored. The monitoring may be performed by data extractors that monitor changes to a data source in real-time. When information at the data sources is updated or located to match the query terms, a data extractor extracts the data to be analyzed at block 112. In one configuration,

a quality control analysis may also be performed on the extracted data (not shown). After analyzing the data, the extracted data may be visualized at block 114.

**[0030]** Additionally, after the data has been analyzed, at block 116, a communication channel may be established with specific individuals and/or other users based on the analyzed data. For example, if the data analysis reveals that a customer may be planning a trip to another country, the data mining system 100 may engage the customer to discuss cell phone data roaming plans and/or other services that may be desired by a customer that is traveling to another country. Furthermore, at block 118, customers and/or users may provide feedback. That is, the customers may provide feedback to the system via a pre-defined communication channel, such as a message board, phone, SMS, or email. The feedback is analyzed at block 112 to determine customer sentiment. Furthermore, in addition to or separate from the open forum, the feedback may also be generated based on the communication channel established at block 116.

**[0031]** In another configuration, the communication channel of block 116 may be established after the extracted data has been visualized at block 114. It should be noted, the communication channel of block 116 and the visualization of block 114 may be established in parallel or independently. Furthermore, in one configuration, the feedback received at block 118 may be visualized in block 114.

**[0032]** FIGURE 2 illustrates a data mining system 200 according to an aspect of the present disclosure. Those of skill would further appreciate that the various illustrative modules of FIGURE 2 may be implemented as electronic hardware, computer software, or combinations of both. To clearly illustrate this interchangeability of hardware and software, various illustrative components, blocks, modules, circuits, and steps have been described above generally in terms of their functionality. Whether such functionality is implemented as hardware or software depends upon the particular application and design constraints imposed on the overall system. Skilled artisans may implement the described functionality in varying ways for each particular application, but such implementation decisions should not be interpreted as causing a departure from the scope of the present disclosure.

**[0033]** The data mining system 200 may include a query module 202 for generating a query. As discussed above, in one configuration, a query is generated for searching specific data sources. In one configuration, the query is a natural language query. For example, the natural

language query may be "I want to know the sentiment of wireless phone customers." The query represents a topic of interest (TOI), for example, the topic of interest may be a person, such as Michael Jackson, an event, such as the Arab Spring, a service, such as wireless phone, and/or any other informational element that may be queried.

**[0034]** Additionally, the data sources may include websites, private databases, public databases, and/or any data source that may be electronically accessed. Furthermore, the query may further specify the parties that hold the opinion, such as the author of the content. Thus, in one configuration, the query may specify the sources of the data, such as URLs, websites of specific countries, and/or internal/external data silos. Furthermore, the query may further specify the author of the specified data sources, such as, main stream media, bloggers, user comments, and/or social media.

**[0035]** Furthermore, in one configuration, the query may be specified for a specific time frame. The time frame may be a specific time frame of the past, a time frame of the future, or a specific interval. For example, the query may only apply to events that occurred in the summer of 2012. As another example, the query may be generated to run in three months from the date of origin for the query.

**[0036]** In one configuration, after generating the query, open-source data is mined using the topic of interest and sub-topics. Sub-topics refer to topics related to the topic of interest. For example, for the query "I want to know the sentiment of wireless phone customers," the topic of interest may be a specific wireless provider and/or "wireless phone customers." Furthermore, in the present example, the sub-topics may be "iPhone customers" and "wireless customers." The open-source data refers to data that is generally available to the public. For example, data that is not deemed classified by a sovereign entity may be one source of open-source data. Open-source data may also include, but is not limited to, data available via a website, a data base, and/or a really simple syndication (RSS) feed.

**[0037]** After mining the open-source data using the topic of interest and sub-topics, the query parameters (e.g., search parameters) may be expanded and/or further processed. That is, during the initial query generation, the user defines the scope of the query. Specifically, the user determines, to the best of their ability, the topics of interest and their sub-topics. After the query is executed, the user may find unintended search results. Some of the unintended search results

may be false positives, while others may be relevant to the context of the query. Consequently, the user may add additional items to the topics of interest and/or sub-topics based on the unintended search results.

**[0038]** According to one aspect of the present disclosure, the query expansion and/or further processing may be performed in the query module 202. Alternatively, the query expansion and/or further processing may be performed in a module that is separate from the query module 202 (not shown).

**[0039]** In one configuration, a lexicon is applied to expand on the search parameters. The lexicon may be applied prior to the initial search and/or during the query expansion phase. The lexicon may also include misspellings and derivations of the topic of interest/sub-topics. The lexicon may be generated based on user input and/or may be generated based on automatic word association, such as synonym/antonym trees and lexicons of positive and/or negative modifiers.

**[0040]** As an example, for the query “Arab spring,” the lexicon may be applied to expand the search to include relevant search terms such as, for example, “revolution,” and/or “unrest.” In this example, the lexicon may also apply misspellings, such as “spirng,” to the search terms.

**[0041]** The expanded query is run on the data sources and the results are analyzed via a results module 204. The expanded query may be performed across meta-data for the web. Furthermore, in addition to, or separate from the meta-data search, in one configuration, the query is also performed on the selected data sources. If the results of the query are deemed satisfactory, data extractors are generated to monitor one or more of the specified data sources. That is, the results of the query are reviewed by a user, after reviewing the results, one or more of the data sources are selected based on the accuracy of the search results. The user may also select or exclude data sources that are false positives. False positives refer to data sources that are not relevant to the topic of interest but are still returned because the data source matches the query.

**[0042]** For example, the topic of interest for a query may be “Arab spring” and the results may include topics that are not related to the topic of interest (e.g., false positives). In this example, a search for a search of “Arab spring” may have generated false positive search results such as “Arab spring water” or sources related to the spring season in the Middle East.

Accordingly, sources related to these false positives may be excluded from further iterations of the search. Moreover, sources specifically related to the Arab spring uprisings may be selected by the user based on their accuracy.

**[0043]** Once the specific data sources have been selected, data extractors are deployed to monitor the specific data sources. In one configuration, when the results of the query do not yield results that are satisfactory to the user, the query is further refined until the desired results are obtained.

**[0044]** The data mining system 200 may include a data extractor module 206 for deploying data extractors. The data extractors may be referred to as extractors. Extractors refer to applications that monitor and extract data from user-specified locations or sources of interest (e.g., data source). That is, upon deployment, the extractors extract the data from a given source for analysis. Moreover, until terminated, the extractors are maintained at the data source to monitor for any changes to the data. The data changes are analyzed for a match to the key words of the query and the data is transmitted to a data analysis module when there is a match.

**[0045]** In some cases, the extractors may be bots or crawlers. The number of extractors deployed for a data source may be dynamic. In one configuration, the number of data extractors deployed for a data source increases when activity on the data source increases. For example, if extractors are deployed on a social media source to follow a current event, such as the elections, the number of extractors may increase during times when traffic for the election increases. In this example, the social media traffic may increase during flash points of a campaign, such as primaries, debates, and/or election night.

**[0046]** In one configuration, after a data source has been identified, the content of the data source is extracted based on a schedule. For example, a user may identify a blog as a data source. Moreover, the identified blog may have multiple authors, still, the user may specify to only extract posts by a first author, rather than all of the authors. The user may also set a schedule for the extractor to determine if there is new content from the first author. The schedule may be once a week, hour, month, minute, or other time. The extractor may extract the content to determine if there is new content. After determining that there is new content, the content will be transmitted to the data mining system. In this configuration, prior to deploying the extractor, the first author is identified as a topic of interest for the query. The extractor determines the

identified topics of interest in external data sources such as social media, websites, proprietary data silos, and transmits the data to the data mining system for analysis.

**[0047]** Data is extracted when the extractor detects a relevant post. A relevant post refers to data on the data source that match the query and/or key words of the query. The extracted data may be catalogued and stored on a database in a data analysis module 208. The data may also be connected to terrestrial feature markers. The data that is stored in the database may be transmitted to a data analytics module for sentiment analysis, indexing, and/or pattern detection. Archived data is kept for each data source that is monitored.

**[0048]** In one configuration, sentiment analysis is performed on the extracted data. The sentiment analysis may language agnostic so that analytics may be performed in any native language, such as, for example, Arabic, Chinese, or Persian. The data analysis may also perform pattern detection, document classification, and sentiment analysis on both structured and unstructured datasets. Additionally, an analysis lexicon may be applied to the sentiment analysis.

**[0049]** Specifically, the data analysis module 208 may further analyze the data via linguistic patterns to determine the sentiment. That is, via the analysis lexicon, the data is processed using both a clausal and individual word level in English and/or the native language of the data. In one configuration, the data may be processed via successive passes. Numerical values may be assigned to denote sentiment. The sentiment may refer to whether the data is for or against a specific topic.

**[0050]** In one configuration the numerical values for the sentiment provide a specific range of numerical value to denote the strength of the sentiment. Positive sentiment may be given a value from 1 to X, 1 being the lowest value for a positive sentiment while X denoting the highest sentiment value. Additionally, negative sentiment may be given a value from -1 to -Y, -1 being the lowest value for a negative sentiment while -Y denoting the highest sentiment value.

**[0051]** The data mining system 200 may include a data visualization module 210 for visualizing data. The visualized data may be based on the data that is analyzed in the data analysis module 208. That is, in one configuration, the data is visualized to display sentiment patterns across datasets. The visualization may be temporal and/or spatial. Furthermore, the visualized data may be exported so that a user may directly manipulate the results.

**[0052]** Additionally, data mining system 200 may include a customer communication module 212 for establishing a communication channel with customers and/or other users based on the analyzed data. As discussed above, in one example, if the data analysis reveals that a customer may be planning a trip to another country, the data mining system 200 may engage the customer to discuss cell phone data roaming plans and/or other services that may be desired by a customer that is traveling to another country.

**[0053]** Furthermore, the data mining system 200 may include a customer feedback module 214 for customers and/or users to provide feedback. In one configuration, the feedback is based on an open forum, such as a message board, for the customers to provide feedback to the system. The feedback is analyzed at the data analysis module 208 to determine customer sentiment. Furthermore, in addition to or separate from the open forum, the feedback may also be generated based on the communication channel established via the customer communication module 212.

**[0054]** In another configuration, the communication channel of the customer communication module 212 may be established after the extracted data has been visualized via the data visualization module 210. Furthermore, in one configuration, the feedback received via the customer feedback module 214 may be visualized at the data visualization module 210.

**[0055]** FIGURE 3 illustrates examples of data visualization according to aspects of the present disclosure. In one configuration, the data visualization is a sentiment heat map 308. That is, as shown in the sentiment heat map 308, the data may be visualized to show flash points for the extracted data. For example, if the topic of interest is “earthquakes,” the heat map may show the areas in the world that have the most activity on the topic of interest. The heat map is not limited to a world map and may be visualized for any region.

**[0056]** In another configuration, the data visualization is a bar graph 302 for the sentiment over time. As previously discussed, the analyzed sentiment may be assigned a numerical value. Accordingly, the numerical value for the sentiment may be plotted over time and visualized as shown in the bar graph 302. For example, the topic of interest may be “alternative energy,” and the visualization of the bar graph 302 may show a specific group’s sentiment towards alternative forms of energy over time. In another configuration, the data visualization is pie chart 304 and/or a plot graph 306.

**[0057]** The data visualization is not limited to the schemes shown in FIGURE 3, the data may be visualized via any desired scheme, such as, but not limited to Calendars, Box Plots, Bubble Charts and variations thereof, Bullet Charts, Chord Diagrams, Cartograms, Dendograms, Network Diagrams, Streamgraphs, Bar Graphs and variations thereof, Tree diagrams, maps, and variations thereof, Line graphs, Maps, Hierarchical Edge Bundling, Scatterplots and Scatterplot Matrices, Sankey diagram, Cluster maps and diagrams, Co-occurrence Matrices, Sunburst charts, Beziers, Word clouds, Heat maps, Timelines, Donuts and Pie charts, and/or Area charts. Moreover, the aforementioned visualizations may be based on dynamic factors, such as, but not limited to force directed movements, time elapse, pattern acceleration, and/or volume. More specifically, the data visualization may be specified to show relationships, variations, anomalies, trends, patterns, pinpoints, ranges, and/or actuals in the target data. It should be noted that the visualization options are configurable by the user and may vary based on the deployment domain and goal of the data mining system.

**[0058]** FIGURE 4 is a conceptual data flow diagram illustrating the data flow between different modules/means/components in an exemplary query module 400 according to an aspect of the present disclosure. In one configuration, the data flow between different modules/means/components of the query module 202 are similar to the data flow between different modules/means/components of the query module 400.

**[0059]** As shown in FIGURE 4, query module 400 includes a query setup module 402 for creating a query. The query setup module 402 may receive query elements via an input 406. The query elements may specify the topic of interest and subtopics of interest. In one configuration, the query elements are input by a user and/or automatically generated via a query module (not shown). As discussed above, the query elements may be a natural language query.

**[0060]** The query module 400 also includes a lexicon module 404 for applying lexicon elements to the query elements received at the query setup module 402. In one configuration, the lexicon elements are applied to the query elements at the query setup module 402. Alternatively, the query setup module 402 may transmit the query elements to the lexicon module 404 so that the lexicon elements may be applied to the query elements.

**[0061]** As discussed above, the lexicon elements may expand the query elements. In one configuration, for a query, the lexicon is applied to expand the search to include relevant search

terms. The lexicon may also apply misspellings and derivations of the topic of interest/sub-topics. The lexicon may be generated based on user input and/or may be generated based on automatic word association, such as synonym/antonym trees and lexicons of positive and/or negative modifiers.

**[0062]** The query module 400 also includes a language translator 408 for translating the query elements received at the query setup module 402. The language translator 408 may translate the query elements and/or the results from English to another language, and vice versa. After applying the lexicon via the lexicon module 404 and translating the query elements (if necessary), the query setup module 402 transmits the query to the natural language processor 410. In one configuration, the natural language processor 410 converts the query elements to system-understood operations, such as Boolean operations.

**[0063]** The query module 400 also includes a search module 412 that distributes the query elements to search data sources. In one configuration, the data sources are defined by a user and are received at the search module 412 via a signal 416. Alternatively, the data sources may also be specified in the query elements received at the search module 412. Results of the search are transmitted to the results module 414. The results module 414 may sort the results and display the results to the user. In one configuration, the user may select the desired results to be stored in memory. The user may select the desired results based on the accuracy of the results and/or the information provided in the results. In one configuration, the results module 414 may be separate from the query module 400. According to an aspect of the present disclosure, the selected results are transmitted to a refinement module 418.

**[0064]** FIGURE 5 is a conceptual data flow diagram illustrating the data flow between different modules/means/components in an exemplary refinement module 500 according to an aspect of the present disclosure. In one configuration, the refinement module 500 may be included in the query module 400. Still, in the present configuration, the refinement module 500 is distinct from the query module 400. Nonetheless, in the present configuration, the refinement module 500 uses some of the elements of the query module 400.

**[0065]** As shown in FIGURE 5, the selected results from the results module 502 may be transmitted to the lexicon updating module 504. As previously discussed, at the results module 502, the user selects relevant results for processing (e.g., calibration). That is, the user may

judge the results for accuracy based on the intent of the query. Based on the results selected from the query, the data mining system may refine the lexicons and the query elements.

**[0066]** More specifically, a search for a topic of interest may yield a plethora of results. Some results may be relevant to the search while others may be false positives. Accordingly, by understanding the data sources that are relevant to the user, the system may further refine to search terms so that a more focused search may be performed in future iterations.

**[0067]** Thus, the lexicon updating module 504 adjusts the lexicons based on the results selected by the user. The lexicon updating module 504 may transmit the results to the search module 506 to perform another search with the updated lexicons. Additionally, the lexicon module 508 may also be updated with the updated lexicons of the lexicon updating module 504. The lexicon module 508 may receive the updated lexicons from the search module 506 and/or the lexicon updating module 504. The refinement module 500 may run in a loop until the search results reach a desired results threshold. In one configuration, once the desired results have been received via the search module 506, the results module 502 transmits the results to a data analysis module 510.

**[0068]** FIGURE 6 is a conceptual data flow diagram illustrating the data flow between different modules/means/components in an exemplary data analysis module 600 according to an aspect of the present disclosure.

**[0069]** In one configuration, the data analysis module 600 includes a pre-processing module 602 that pre-processes the received data. The data may include results found by the extractors. That is, the data from the extractors may include data generated during a first pass of a search in addition to data from subsequent passes. More specifically, the data from subsequent searches may be refined and/or expanded based on the modification of the query. Moreover, the results obtained from the extractors may be time stamped, or given a unique identifier, so that the data of each pass is distinguishable from data of other passes.

**[0070]** In some cases, the data may be in various formats. For example, data extracted from a website may be different from data extracted from a database. Therefore, the preprocessing 602 may normalize the data to a desired format. After normalizing the data, the pre-processing module transmits the processed data to the data analysis module 604.

**[0071]** The data analysis module 604 may use various algorithms to analyze the normalized data. In one configuration, the data analysis module 604 includes a user generated algorithm module 606, a machine learning algorithm module 608, a lexicon based matching module 610, and a predictive module 612. In one configuration, the user generated algorithm module 606 executes an algorithm specified by the user. The machine learning algorithm module 608 may detect patterns in the data and the patterns may be applied to future data. The lexicon based matching module 610 finds key words and/or indexes in the body of the data. The predictive module 612 determines patterns in previous data and applies a probability for an occurrence of an event based on the present data. In one configuration, the data analysis module 604 includes all of the aforementioned modules or any combination thereof. Additionally, in another configuration, the user may configure the algorithm modules 606-612 that are used by the data analysis module 604.

**[0072]** After the data is analyzed, the data is transmitted to a pattern detecting module 614 to detect patterns in the data. In one configuration, the pattern detecting module 614 detects a spike in specific words or phrases. For example, the pattern detecting module 614 may detect a spike in the phrase “I love my iPhone 5.”

**[0073]** The pattern detecting module 614 may also determine any causality for the spike. That is, the pattern detecting module 614 may determine what caused the spike to occur. For example, the pattern detecting module 614 may determine that the spike for the phrase “I love my iPhone 5” is based on a recent software update to the iPhone. The pattern detecting module 614 transmits the analyzed data and/or the detected patterns to the post-processing module 616. The post-processing module 616 may process the data to a format that is desired for an external system.

**[0074]** The data and/or detected patterns may be transmitted to a quality control module 618. In one configuration, the data may be transmitted directly from the data analysis module 604 to the quality control module 618. Likewise, the analyzed data from the data analysis module 604 may bypass either the pattern detecting module 614 or the post-processing module 616. The quality control module 618 may include a scoring module 620 for assessing the accuracy of the results over time and as compared to a human analyst. Additionally, the quality control module 618 may include a logging module 622 for logging changes to the analysis of the

data over time and/or per iteration. The logging may be similar to a software version control function. Furthermore, the quality control module 618 may include a labeling module 624 for labeling the data and the datasets for later reference. The labeling may include time stamping, pattern stamping, topic labeling, or any other desired type of label (e.g., identification).

**[0075]** The results from the quality control are transmitted to the user profile and used for future analysis by the data analysis module 604. The results of the quality control and/or the analyzed data may be stored in a storage module 626. The storage module may also store the patterns detected via the pattern detecting module 614. The results of the quality control and/or the analyzed data may also be displayed via a display module 628. The display module 628 may also display the patterns detected via the pattern detecting module 614. Furthermore, the display module may display a notification when the quality is below a quality threshold and/or when specific analyzed data is detected. Additionally, the analyzed data from the data analysis module 604 may be used to generate notifications and/or open communication channels with users based on various criteria.

**[0076]** FIGURE 7 is a conceptual data flow diagram illustrating the data flow between different modules/means/components in an exemplary customer communication module 700. The customer communication module may include modules to both communicate with a customer and receive feedback from a customer. In one configuration, the communication module may be a separate from the feedback module.

**[0077]** As shown in FIGURE 7, the customer communication module 700 may include a communication generation module 702. The communication generation module 702 may receive data from the analyzed results. Furthermore, the communication generation module 702 may receive information regarding a specific user from a user profile module 704. The user information may include information such as, the user's name, address, occupation, spoken languages, physical attributes, preferred communication method, and/or any other desired details. Additionally, the communication generation module 702 may be coupled to a translating module 706 to translate the received data based on the user profile. Furthermore, the communication generation module 702 may be coupled to a natural language processor 714 to process any natural language data. That is, the natural language processor 714 may analyze the received natural language and determine semantic information from the received natural language.

**[0078]** Based on the data from the analyzed results, the user profile information, and the processing by the translator 706 and/or the natural language processor 714, the communication generation module 702 determines a strategy for communicating with a user. In one configuration, the strategy may be based on historical data. Historical data may include, but is not limited to, company records, sales records, and/or logged customer feedback. Once the strategy has been developed, the communication generation module 702 transmits the strategy to a communication execution module 708 for communicating with the user via one or more determined communication channels. The communication channels may include email, short message service (SMS), click-to-voice, interactive voice response (IVR), or any other desired form of communication. In one configuration, the user specifies their desired form of communication.

**[0079]** The customer communication module 700 may include a feedback module 710 for receiving a communication from a customer. The communication may be in response to the communication initiated via the communication execution module 708. Alternatively, the communication may be received via a portal, such as a webpage, twitter, message board, or any other communication channel. After receiving the communication from the user, the feedback module 710 transmits the data of the communication to the data analysis module 712 to analyze the data. The data is analyzed similar to the results of a query (e.g., data analysis module 510). That is, the data analysis module 712 may be the same module as the data analysis module 510 of FIGURE 5. In another configuration, the data analysis module 712 may be a different module as the data analysis module 510 of FIGURE 5; still, both modules would have similar functionality.

**[0080]** In one configuration, the data analysis module 712 may analyze the data for pattern detection and/or natural language processing. The results of the analyzed data may be reported to the user of the data mining system. Furthermore, the results may be transmitted to the communication generation module 702 for further refinement of the communication generation.

**[0081]** FIGURE 8 is a conceptual data flow diagram illustrating the data flow between different modules/means/components in an exemplary customer communication module 800. The customer communication module 800 may include the feedback module 710 of FIGURE 7.

In one configuration, the customer communication module 800 of FIGURE 8 is integrated with the customer communication module 700 of FIGURE 7.

**[0082]** As shown in FIGURE 8, the customer communication module 800 may include a feedback module 802 for receiving an input from a user via a communication channel. The communication channel may include, but is not limited to, SMS, email, web based communication, or a user-defined method. The feedback module 802 receives the communication, which may be received as a string of characters and processes the input to a desired format. The input is then transmitted to a parsing module 804 to be parsed based on lexicon sets and relationship maps, such as ontology sets, to classify the topic of the input.

**[0083]** After the string is parsed to determine the topic of the input, the parsed string is transmitted to a routing module 806 to be routed based on the identified topic. That is, the routing module 806 may look up the topic in a topic index so that the proper response is determined. After determining the proper index, the routing module 806 may transmit the topic index to the response module 808. The response module 808 determines the response from responses stored in a database 810. For example, if the string includes the words “appointment” and “schedule,” the routing module 806 may determine that an index is “scheduling an appointment” and transmits the index to the response module 808. In this example, the response module 808 may then communicate with the user to schedule an appointment.

**[0084]** The responses in the database 810 may be updated in real time based on a machine learning module 812. For example, an index of “scheduling an appointment” may be determined based on a string including the words “appointment” and “schedule.” Over time, the system may determine that communicating a response to schedule an appointment is not the appropriate response. That is, based on customer feedback, or other types of feedback, the system may determine that the proper response is to provide the user with the schedule of their appointments, or another type of response.

**[0085]** After determining the proper response, the response module 808 transmits the response to an outbound communication module 814 to communicate the response to the user via a desired form of communication, such as, but not limited to, email, SMS, or phone.

**[0086]** According to an aspect of the present disclosure, the data mining system may provide an ability for managers or high level user to subdivide the analysis into discrete, secure

modules. A variety of permissions can be assigned to the analysts to control both the input and processed data. FIGURE 9 illustrates a flow diagram for the levels of security.

**[0087]** For example, as shown in FIGURE 9, a user designated as an administrator may have access to all of the data obtained via the system. The administrator may be referred to as a level 1 user. The administrator may provide specific permissions to level 2 users, such as a first manager (manager 1) and a second manager (manager 2). The managers may have the same access as the administrator or may have less access than the administrator. Furthermore, the levels of access for each manager may be the same as or different from each other. The managers may then control the level of access by each data analyst (Analysts A-D). The levels of access for each analysis may be the same as or different from each other.

**[0088]** As previously discussed, extractors may be deployed on target data sources. The data extracted by the extractors may be transmitted to a cloud-based infrastructure. The cloud-based infrastructure allows for on-demand scaling of resources and deployment of multiple extractors that may be processed in parallel.

**[0089]** The dynamic parallel computing structure may be used to process data without impeding speed. Specifically, the extractors and data analysis modules are dynamically configurable between sequential and parallel processing to improve efficiency.

**[0090]** FIGURE 10A illustrates a typical sequential data extraction system. As shown in FIGURE 10A data sources (e.g., data source 1 - data source n) are sequentially analyzed. More specifically, each record (e.g., record 1 - record n) of the data source is extracted one record at a time. The records to one record in a data source, such as a web page, database entry, etc. The speed of the extraction is limited by the speed of the processor(s). After extracting the record from a data source, the record is written to a data base.

**[0091]** Furthermore, as shown in FIGURE 10B, a sentiment analysis module may also be specified to process each extracted page. The sentiment analysis module may also be a data analysis module. As shown in FIGURE 10B, each extracted data source (e.g., data source 1 - data source n) is sequentially analyzed by the sentiment analysis module. The sentiment analysis module may receive an input from the lexicon module. The records processed by the sentiment analysis module may be output from each sentiment analysis module for further processing.

**[0092]** Although sequential processing is a very straightforward approach to data-mining and analysis, it is limited by processing speed. For example, various sub-processes may be slower than others, leading to bottlenecks in the system. Moreover, page extraction speed (X) may be faster than the sentiment analysis processing speed (Y), thus leading to bottlenecks.

**[0093]** In one configuration, as shown in FIGURE 10C, scalable processing capabilities are specified by deploying multiple instances/sub-sentries to perform sentiment analysis processing in parallel. As shown in FIGURE 10C, multiple sentiment analysis modules may be deployed to analyze the records of the extracted data in parallel. In FIGURE 10C, the sentiment analysis module may receive an input from the lexicon module. The records processed by the sentiment analysis module may be output from each sentiment analysis module for further processing.

**[0094]** In one example, based on the present configuration, if the extraction speed is four times the sentiment analysis processing speed, 4 sub-sentries may be deployed to perform the sentiment analysis in parallel. Additional sub-sentries may be deployed for buffering needs. In another configuration, if the sentiment analysis processing speed is limited by a large lexicon, sub-sentries may be deployed to process a portion of the lexicon, in parallel. The data mining system of the aspects of the present disclosure monitors the speed of each sub-process, which is input into a controller that dynamically allocates parallel processing instances on-demand.

**[0095]** The data mining system described in the aspects of the present disclosure may obtain large amounts of data with varying levels of sensitivity. That is, some information may include customer sensitive data or data that should only be viewed by individuals have varying degrees of clearance. Thus, it may be desirable to provide a data security system that may be modified based on the procedures of a client of the data mining system.

**[0096]** As previously discussed, the data mining system described in the various aspects of the present disclosure may be used to mine and analyze various forms of data. Provided below are various examples of how the data mining system may be used by governments, individuals, corporations, and/or any desired user. Of course, the use of the data mining system of the present application is not limited to the discussed examples.

**[0097]** In one configuration, the data mining system may be used by a government and/or intelligence agency to monitor global hot spots. For example, governments and/or intelligence

agencies may move through vast amounts and types of data, and in multiple languages to find patterns indicating the likelihood of domestic unrest, or the next terrorist attack. However, integrating and manually analyzing multiple data sources in real time is technically challenging, time intensive, and marred by human bias, oversight, and even fraud.

**[0098]** The data mining system described in aspects of the present disclosure finds, monitors, and summarizes the information needed to make the most informed decision in real time. Rather than relying on the manual sifting and analysis of intelligence, data mining system of the present application may use a combination of rules engines and artificial intelligence schemes to detect threat patterns within large datasets before problems reach a tipping point. Through iterations of searches and search results, the data mining system learns to filter data noise and refine queries to prioritize the most relevant results.

**[0099]** The data mining system described in aspects of the present disclosure may determine political sentiment by sampling mass media conversations in any language. Social media outlets, such as Twitter, may be monitored via the data extractors to identify user-defined events, shifts in traffic volume, and/or sentiment. The data mining system may report frequencies on topics, entities, and persons of interest, which may signal the development of a physical event posing a risk to public security.

**[00100]** After identifying a user-defined event, the data mining system notifies the appropriate personnel in real time, communicating the event type, location, and optimal response strategy via a communication channel, such as email or SMS.

**[00101]** In addition to monitoring mass online conversations and their physical impact, in one configuration, the data mining system may also monitor a specific individual. That is, the data mining system may analyze, verify, and cross check a person of interest's information, such as travel, financial, vital, and law enforcement records to identify patterns indicative of fraud, criminal activity, or other threatening behavior. The data mining system may then build a person of interest profile based on verifiable intelligence determined from all available institutional and open-source data feeds, including social media.

**[00102]** As an example, an intelligence agency may monitor sentiment of specific topics and/or groups during. In this example, the intelligence agency would have developed a query for monitoring sentiment of a topic/group. For example, the query may be "show me people upset

with the government.” In some cases, the query may be further refined to a specific group and/or a specific location.

**[00103]** After the query has been selected, the query may be expanded based on lexical and rule-set based techniques to search structured and unstructured datasets for the keywords of the query. Specifically, the expanded query may generate a topic of interest in addition to sub-topics. The expanded query may then be run on open-source data and closed-source data. After the first pass of the search, the user may expand the topic of interest based on unintended search results.

**[00104]** That is, after the first pass of the search, the use may add additional topics and/or sub-topics in addition to narrowing the search to specific sources. After the search has been narrowed to a desired results threshold, the data extractors are deployed to the selected data sources for monitoring of the data sources.

**[00105]** As an example, the user may have searched for “Arab Spring” as a topic of interest with “unrest” as sub-topics. In this example, a search of the topic of interest and other sub-topics may have generated unintended search results such as results related to social revolutions. Therefore, the user may determine to add “revolution” as sub-topics to a search. Additionally, other false positives may include topics that are not related to the topic of interest. For example, a search for a search of “Arab spring” and other sub-topics may have generated unintended search results such as “Arab spring water” or sources related to the spring season in the Middle East. Accordingly, sources related to these false positives may be excluded from further iterations of the search.

**[00106]** FIGURE 11 illustrates an example of data from a data source that is identified by a sentry. The sentry may identify a phrase from a message and/or image posted on a data source, such as a message board and/or a social media site. Specifically, as shown in FIGURE 11, the sentry may detect a post 1102 in data source, such as a message board. The post may include an image 1104 and text 1106. In the example data of FIGURE 11, the image 1104 is an image of protestors with a billboard. The post 1102 may have been identified based on key words in the text 1106. For example, the key words may have been “strength” and “opposition.” Once the post 1102 has been identified, the text 1106 may be analyzed by a data analysis module or a

sentiment module. In one configuration, the sentiment is analyzed by the data analysis module 208 and/or a sentiment weight module 1108.

**[00107]** The sentiment analysis assigns weights (e.g., scores) to specific words or phrases that are extracted from a data source. As previously discussed, positive words are assigned a value from 1 to X and negative words are assigned a value from -1 to -Y. Positive words refer to words that indicate a positive sentiment, such as “good,” “happy,” etc. Negative words refer to words that indicate a negative sentiment, such as “hate,” “angry,” etc. The more positive or negative the word, the higher the value. For example, the positive word “good” may be assigned a value of 1 while the positive word “fantastic” may be assigned a value of 3. The value assignment may be set by the user or pre-defined based on a specific vernacular.

**[00108]** In the exemplary data shown in FIGURE 11, the key words in the text 1106 may be analyzed by the sentiment weight module 1108. The sentiment weight module 1108 may assign a sentiment weight to the words and/or phrases extracted from the text 1106. In this example, the words “opposition” and “strength” are both given a weight of -1. Thus, based on the analysis of the sentiment weight module 1108 a user and/or the data mining system may determine that the detected post 1102 carries a negative sentiment. The total sentiment weight for the extracted data may be the sum of all sentiment weight. In this example, the total sentiment weight is -2 (e.g., sum of “opposition” sentiment weight (-1) and “strength” sentiment weight (-1)).

**[00109]** In one configuration, after determining a total sentiment weight for extracted data, the data analysis module, user, and/or data mining system may determine whether to proceed with a second pass for sentiment analysis.

**[00110]** Specifically, in one configuration, for the second pass, the data analysis module performs a more formal computational linguistic analysis to dive deeper into the textual opinions. The second pass may use a natural language processing toolsets on the native script to process and determine sentiment including lemmatization (root-finding), semantic feature analysis, statistical processing to discover patterns, etc. In one aspect of the disclosure, linguistic patterns are specified to populate the topic and modifier tables and create custom lexicons. After the first pass, the system can then reprocess the opinionated text string (OTS) with the improved

tables and increase accuracy. The opinionated text string refers to the set of words where the author holds the opinion.

**[00111]** In the exemplary data shown in FIGURE 11, during the second pass, the sign 1110 in the image 1104 may be analyzed to determine the sentiment of the text in the sign 1110. In this example, the key words of the sign, such as, “change,” “constitutions,” and “tyrants,” may be given sentiment weights. In one configuration, after determining the total sentiment weight from the second pass, the data analysis module determines to extract the user info for the post for further analysis. In this configuration, the data analysis module determines that the user information should be extracted when the total sentiment weight is above a threshold. The thresholds may be set for positive and/or negative sentiment weights.

**[00112]** The user information may be extracted via an information extraction module 1112. The information extraction module 1112 may be part of the data analysis module, sentiment weight module 1108, and/or a distinct module. The information that is extracted may include the username, actual name, age, location, and/or any other information related to the user that posted the data. In one configuration the extracted information may be used for a new query to follow the user that posted the data.

**[00113]** It should be noted that although FIGURE 11 shows the data in English, the aspects of the present disclosure may be applied to data of any language.

**[00114]** In one configuration, after the sentiment of the data is analyzed, quality control is specified for the results of the sentiment. That is, the data and the sentiment weights may be transmitted to a quality control module. A user may review the data transmitted to the quality control module to determine whether the proper sentiment weights were specified for the extracted data. Specifically, the user may determine whether the sentiment analysis missed specific words, gave weights to false positives, and/or applied the wrong weights to specific words. Based on the user analysis, the sentiment analysis may be provided with a quality control value, such as a percentage.

**[00115]** Furthermore, based on the on the user analysis, the lexicon modules and/or sentiment analysis modules may be updated to correct missed words, false positives, incorrect analysis, and/or any other detected errors. After updating the lexicon modules and/or sentiment analysis modules, the sentiment analysis may be subsequently performed. The results of the

subsequent sentiment analysis may be further analyzed by a user. The iterations of the sentiment analysis may be performed until the quality control value is equal to or greater than a threshold.

**[00116]** As shown in FIGURE 11, in one configuration, the data mining system may be specified to determine political sentiment. Still, in another configuration, the data mining system of the present application may be used for customer service purposes and/or revenue enhancement services. In one configuration, a revenue enhancement service (RES) platform is an end-to-end big solution that generates actionable intelligence and executes individually targeted outreach strategies. The RES platform may use predictive analytics, natural language processing, and automated engagement capabilities, to increase revenue by improving sales, identifying emerging trends, and or streamlining customer interaction.

**[00117]** Consumers may generate large amounts of data that indicate how they spend, what they desire, and where and how they engage. In one configuration, the data mining system may continuously monitors the customer information from data sources, such as social media, web feeds, customer feedback, internal company databases, and proprietary data silos. In this configuration, the data mining system extracts attributes for each customer, such as financial profiles and retail history, to social influences and expressed interests. The RES continues to monitor and analyze the data for product sentiment, consumer patterns, and purchasing behaviors to build customer profiles and generate market intelligence in real-time. Using this intelligence, the customer of the data mining system may determine what are the most likely products and services that each customer is looking for as well as ways to engage with that particular customer.

**[00118]** In one configuration, based on the data retrieved via the data mining system, a company may improve product placement or determine design trends. Moreover, the customer may communicate with the company through their choice of interaction medium (e.g., SMS, email, voice, avatar chat, or a combination thereof) so that the customer may ask questions, resolve issues, and express satisfaction/dissatisfaction. Furthermore, the RES platform may determine customer profiles as well as customer sentiment so customer communications may be accurately routed for the appropriate response. That is, companies may improve outreach to engage with customers knowing who they are, how they feel and what they need.

**[00119]** FIGURE 12 illustrates an exemplary flow chart 1200 for determining user sentiment based on an aspect of the present disclosure. As shown in FIGURE 12, at block 1202 an individual may post data on a data source, such as a public forum or social media. In this example, the data is an indication of a phone user's sentiment for their phone service, specifically, "my phone service is terrible." At block 1204 an extractor that is monitoring the data source determines that the data post of block 1202 matches the query, therefore, the data extractor extracts the data and transmits the data to the data analysis module. At block 1206 a data analysis module analyzes the data to determine the sentiment of the post. At block 1208 the data analysis module outputs the sentiment word, such as "terrible," and the sentiment weight, such as "-1". Based on the analysis of the data analysis module, a customer communication module may determine an appropriate response. The response may be determined based on the determined sentiment.

**[00120]** In yet another configuration, the data mining system may be used to determine fraud, waste, and/or abuse of a system. In one configuration, the data mining system uses pattern detection based on historical data and correlating factors in datasets to determine potential fraud, waste, and/or abuse of a system. For example, the data mining system may be used in a health care or insurance system to analyze for fraud and/or abuse.

**[00121]** In one configuration, the data mining system is specified to analyze reported claims. The contents of the claim, such as user information, claim type, injury type, etc. are queried at data sources. The data sources may include a health provider data base, subscriber data base, and/or affiliate data base. The query is specified to determine whether the submitted claim has specific fraud characteristics. If it is determined that a claim has fraud characteristics, the data mining system may take appropriate actions, such as notifying an investigation, denying the claim, and/or flagging the claim for further monitoring. In one configuration, when a claim does not have fraud characteristics, the claim may still be flagged so that the individual that made the claim is monitored for future activity.

**[00122]** Those of skill would further appreciate that the various illustrative logical blocks, modules, circuits, and algorithm steps described in connection with the disclosure herein may be implemented as electronic hardware, computer software, or combinations of both. To clearly illustrate this interchangeability of hardware and software, various illustrative components,

blocks, modules, circuits, and steps have been described above generally in terms of their functionality. Whether such functionality is implemented as hardware or software depends upon the particular application and design constraints imposed on the overall system. Skilled artisans may implement the described functionality in varying ways for each particular application, but such implementation decisions should not be interpreted as causing a departure from the scope of the present disclosure.

**[00123]** The various illustrative logical blocks, modules, and circuits described in connection with the disclosure herein may be implemented or performed with a general-purpose processor, a digital signal processor (DSP), an application specific integrated circuit (ASIC), a field programmable gate array (FPGA) or other programmable logic device, discrete gate or transistor logic, discrete hardware components, or any combination thereof designed to perform the functions described herein. A general-purpose processor may be a microprocessor, but in the alternative, the processor may be any conventional processor, controller, microcontroller, or state machine. A processor may also be implemented as a combination of computing devices, e.g., a combination of a DSP and a microprocessor, a plurality of microprocessors, one or more microprocessors in conjunction with a DSP core, or any other such configuration.

**[00124]** The steps of a method or algorithm described in connection with the disclosure herein may be embodied directly in hardware, in a software module executed by a processor, or in a combination of the two. A software module may reside in RAM memory, flash memory, ROM memory, EPROM memory, EEPROM memory, registers, hard disk, a removable disk, a CD-ROM, or any other form of storage medium known in the art. An exemplary storage medium is coupled to the processor such that the processor can read information from, and write information to, the storage medium. In the alternative, the storage medium may be integral to the processor. The processor and the storage medium may reside in an ASIC. The ASIC may reside in a user terminal. In the alternative, the processor and the storage medium may reside as discrete components in a user terminal.

**[00125]** In one or more exemplary designs, the functions described may be implemented in hardware, software, firmware, or any combination thereof. If implemented in software, the functions may be stored on or transmitted over as one or more instructions or code on a computer-readable medium. Computer-readable media includes both computer storage media

and communication media including any medium that facilitates transfer of a computer program from one place to another. A storage media may be any available media that can be accessed by a general purpose or special purpose computer. By way of example, and not limitation, such computer-readable media can comprise RAM, ROM, EEPROM, CD-ROM or other optical disk storage, magnetic disk storage or other magnetic storage devices, or any other medium that can be used to carry or store desired program code means in the form of instructions or data structures and that can be accessed by a general-purpose or special-purpose computer, or a general-purpose or special-purpose processor. Also, any connection is properly termed a computer-readable medium. For example, if the software is transmitted from a website, server, or other remote source using a coaxial cable, fiber optic cable, twisted pair, digital subscriber line (DSL), or wireless technologies such as infrared, radio, and microwave, then the coaxial cable, fiber optic cable, twisted pair, DSL, or wireless technologies such as infrared, radio, and microwave are included in the definition of medium. Disk and disc, as used herein, includes compact disc (CD), laser disc, optical disc, digital versatile disc (DVD), floppy disk and blu-ray disc where disks usually reproduce data magnetically, while discs reproduce data optically with lasers. Combinations of the above should also be included within the scope of computer-readable media.

**[00126]** The previous description of the disclosure is provided to enable any person skilled in the art to make or use the disclosure. Various modifications to the disclosure will be readily apparent to those skilled in the art, and the generic principles defined herein may be applied to other variations without departing from the spirit or scope of the disclosure. Thus, the disclosure is not intended to be limited to the examples and designs described herein but is to be accorded the widest scope consistent with the principles and novel features disclosed herein.

## CLAIMS

### WHAT IS CLAIMED IS:

1. A method of analyzing data, comprising:  
generating a query based at least in part on a topic of interest;  
expanding search terms of the query;  
executing the query on a plurality of data sources; and  
monitoring at least one specific data source selected from the plurality of data sources for matches to the query.
2. The method of claim 1, further comprising  
extracting data from the at least one monitored specific data source;  
analyzing the extracted data;  
establishing a communication channel with a user based at least in part on the analyzed data; and  
receiving feedback from the user based at least in part on the generated feedback.
3. The method of claim 2, further comprising visualizing at least the extracted data, the analyzed data, or a combination thereof.
4. The method of claim 1, in which expanding the query comprises expanding the search terms to include at least misspellings, synonyms, sub-topics, antonyms, or a combination thereof.
5. The method of claim 1, further comprising:  
refining the search terms based at least in part on the executed query, and in which the monitoring is performed to monitor for matches to a refined query.
6. The method of claim 1, in which the plurality of data sources include open-source data sources that are publically available and closed-source data sources that are not publically accessible.

7. The method of claim 1, in which the query is a natural language query, and further comprising translating the query to a system understood language.
8. The method of claim 1, in which the plurality of data sources are pre-defined.
9. The method of claim 1, in which the monitoring comprises deploying extractors to each of specific data source, a number of extractors being dynamic based at least in part on a traffic volume of each specific data source.
10. An apparatus configured to analyze data, the apparatus comprising:  
a memory unit; and  
at least one processor coupled to the memory unit, in which the at least one processor is configured:
  - to generate a query based at least in part on a topic of interest;
  - to expand search terms of the query;
  - to execute the query on a plurality of data sources; and
  - to monitor at least one specific data source selected from the plurality of data sources for matches to the query.
11. The apparatus of claim 10, in which the at least one processor is further configured:
  - to extract data from the at least one monitored specific data source;
  - to analyze the extracted data;
  - to establish a communication channel with a user based at least in part on the analyzed data; and
  - to receive feedback from the user based at least in part on the generated feedback.
12. The apparatus of claim 11, in which the at least one processor is further configured to visualize at least the extracted data, the analyzed data, or a combination thereof.

13. The apparatus of claim 11, in which the at least one processor is further configured to expand the search terms to include at least misspelling, synonyms, sub-topics, antonyms, or a combination thereof.

14. The apparatus of claim 11, in which the at least one processor is further configured:  
to refine the search terms based at least in part on the executed query, and  
to monitor for matches to a refined query.

15. The apparatus of claim 11, in which the plurality of data sources include open-source data sources that are publically available and closed-source data sources that are not publically accessible.

16. The apparatus of claim 11, in which the query is a natural language query, and in which the at least one processor is further configured to translate the query to a system understood language.

17. The apparatus of claim 11, in which the plurality of data sources are pre-defined.

18. The apparatus of claim 11, in which the at least one processor is further configured to deploy extractors to each of specific data source, a number of extractors being dynamic based at least in part on a traffic volume of each specific data source.

19. A computer program product for data analysis, the computer program product comprising:

a non-transitory computer-readable medium having program code recorded thereon, the program code comprising:

program code to generate a query based at least in part on a topic of interest;

program code to expand search terms of the query;

program code to execute the query on a plurality of data sources; and

program code to monitor at least one specific data source selected from the plurality of data sources for matches to the query.

20. The computer program of claim 19, further comprising:  
program code to extract data from the at least one monitored specific data source;  
program code to analyze the extracted data;  
program code to establish a communication channel with a user based at least in part on the analyzed data; and  
program code to receive feedback from the user based at least in part on the generated feedback.

21. The computer program of claim 19, further comprising:  
program code to refine the search terms based at least in part on the executed query, and  
program code to monitor for matches to a refined query.

## ABSTRACT

A method of analyzing data is presented. The method includes generating a query based on a topic of interest, expanding search terms of the query, executing the query on one or more data sources, monitoring a specific data source selected from the one or more data sources. The monitoring is performed to monitor for matches to the query.

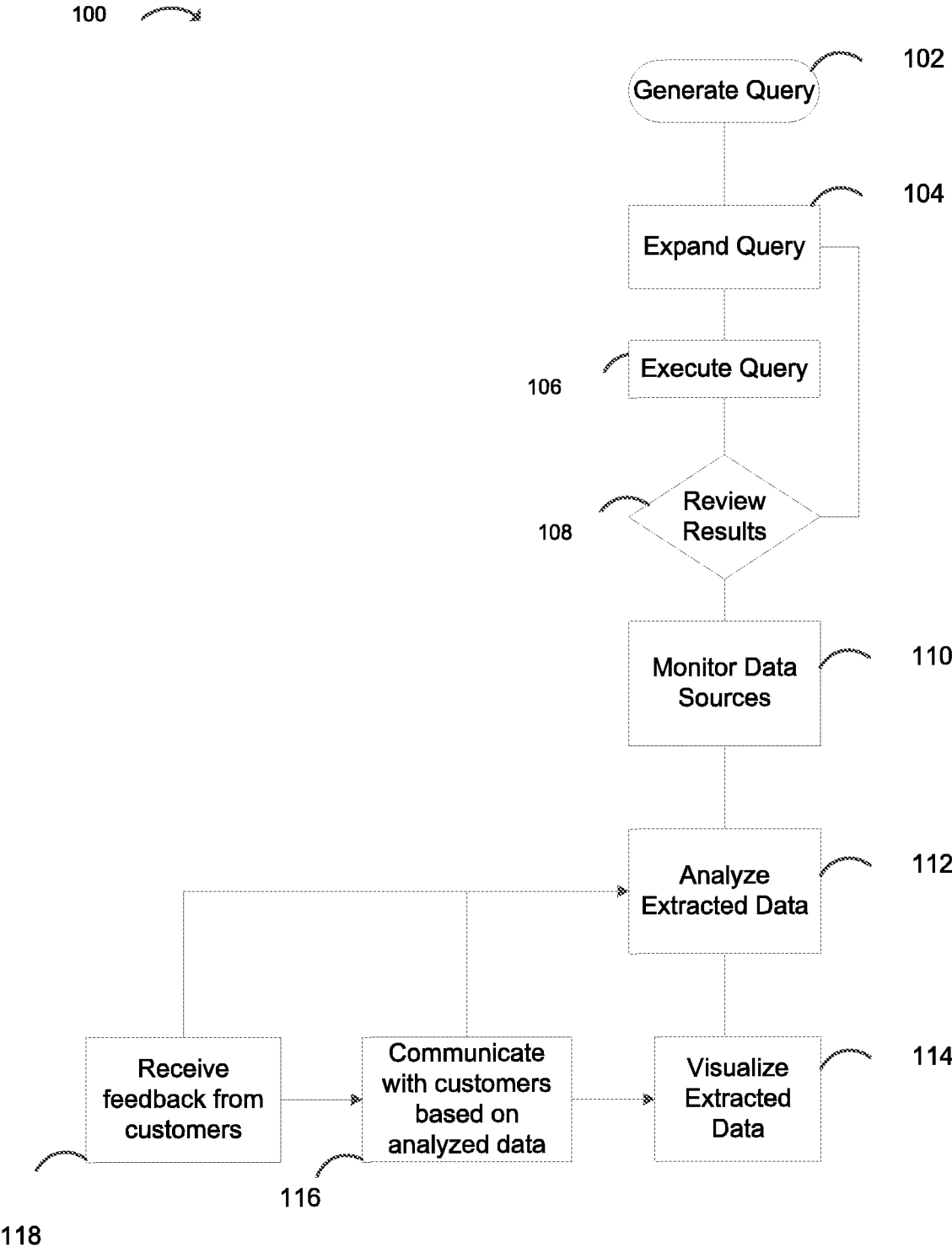


**FIG. 1**

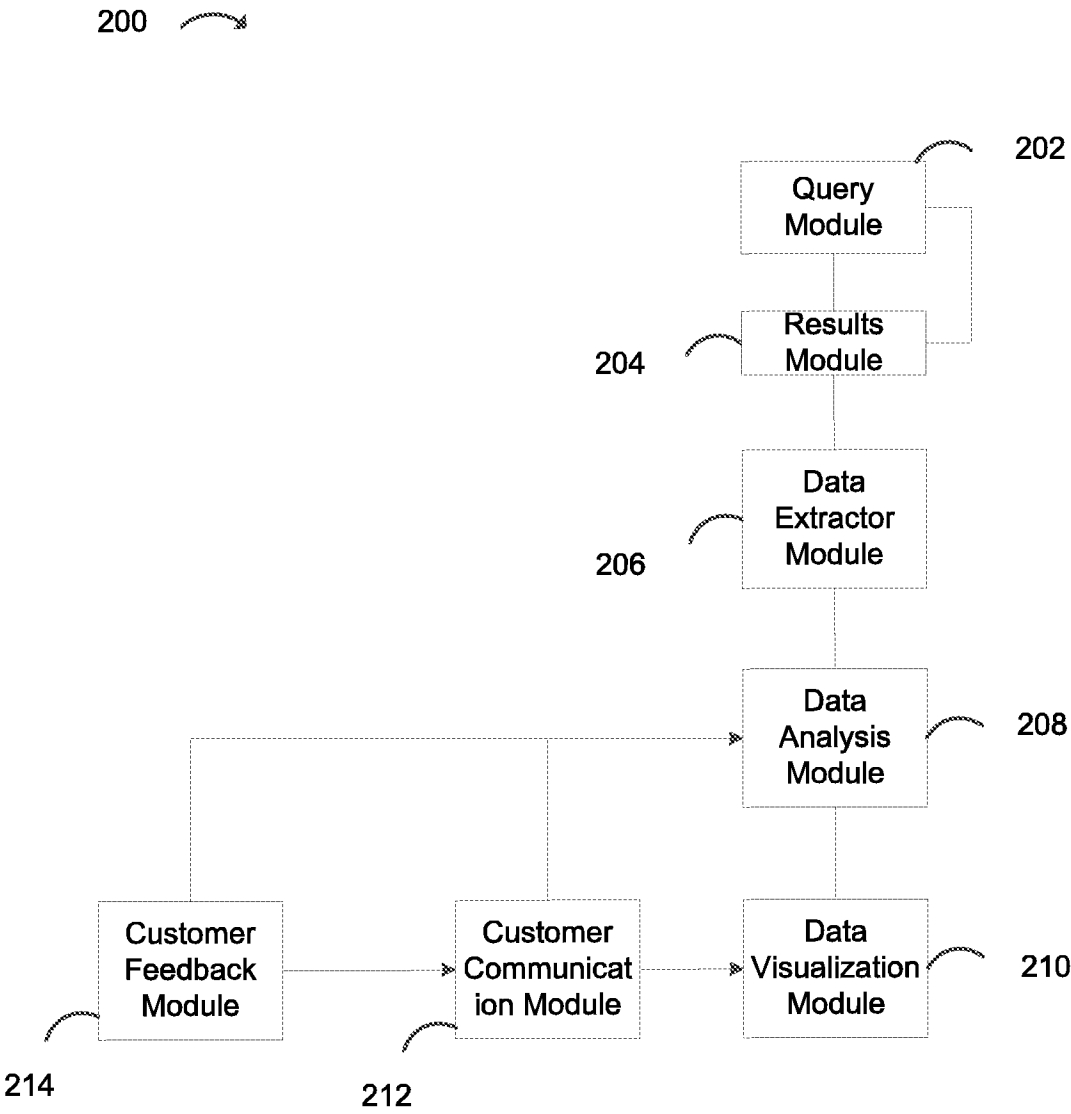


**FIG. 2**

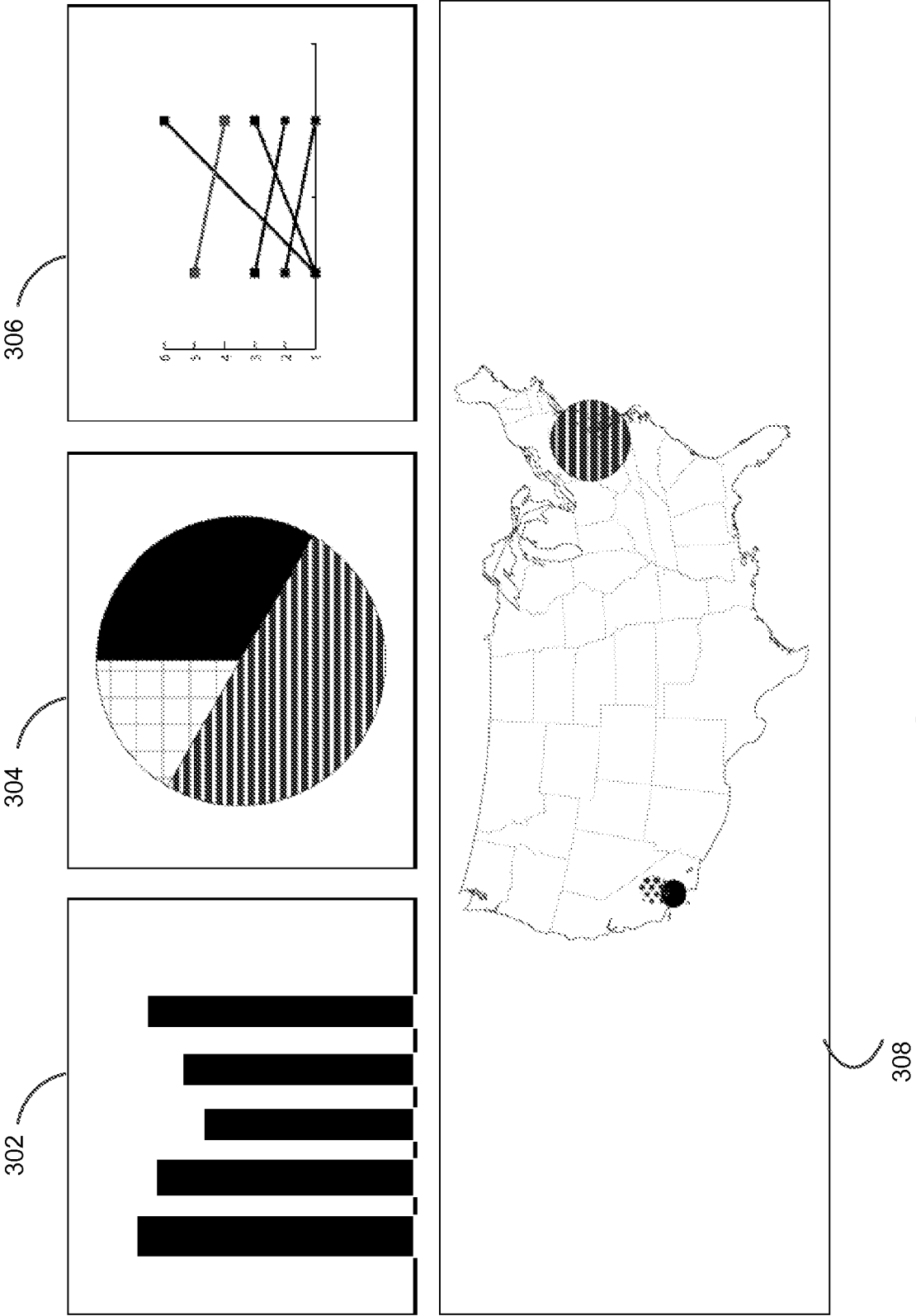


FIG. 3

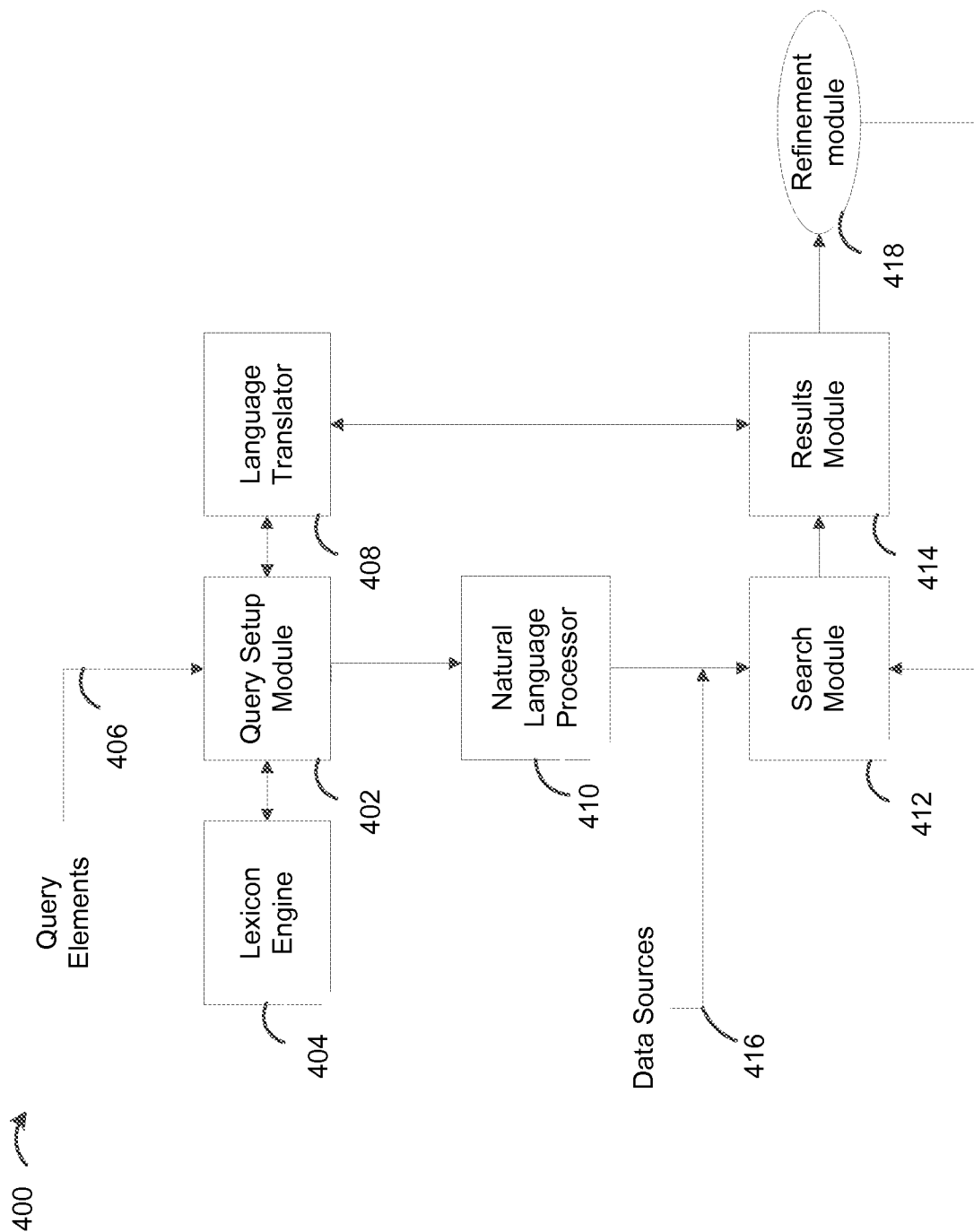


FIG. 4

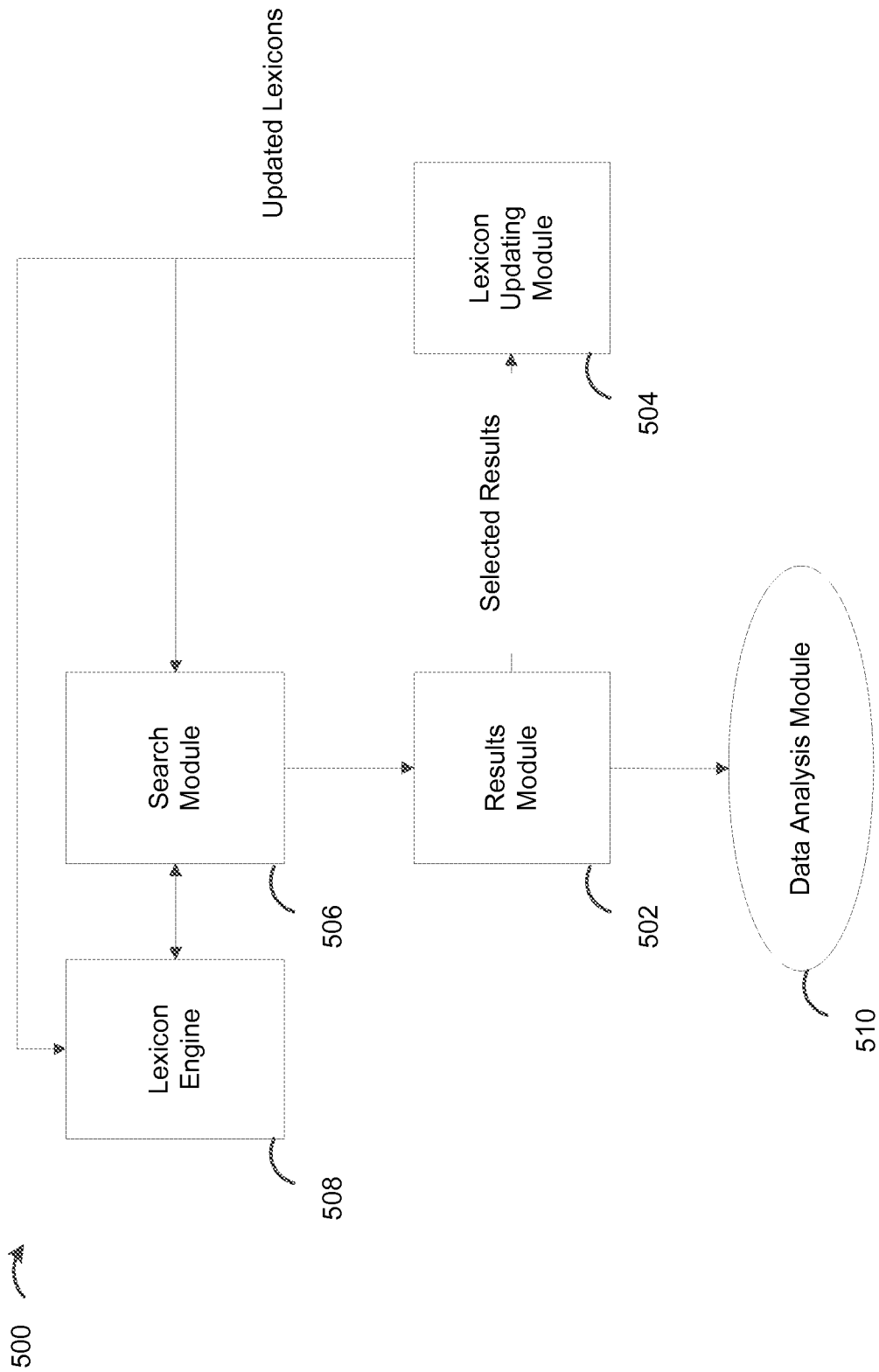
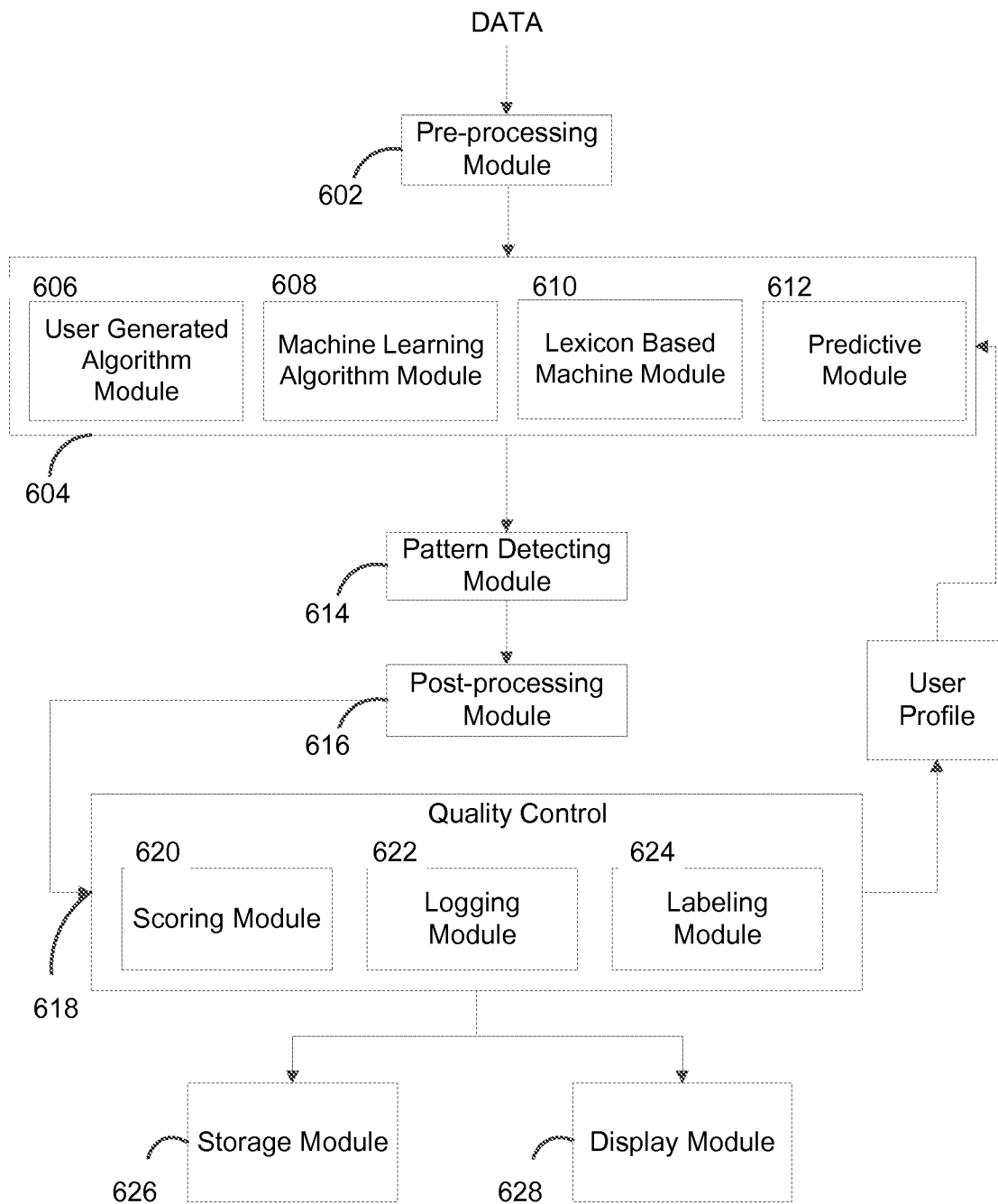
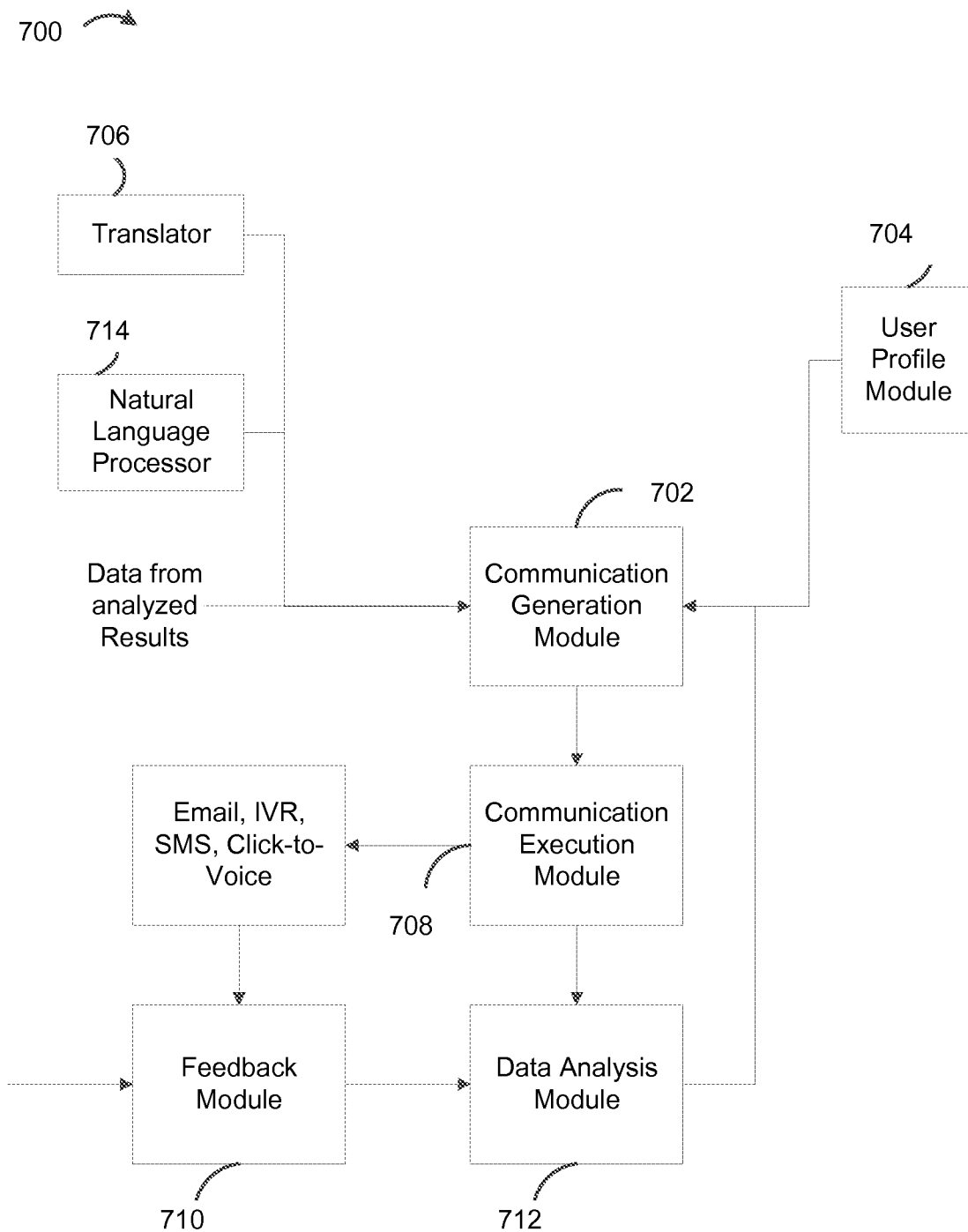


FIG. 5

600 **FIG. 6**

**FIG. 7**

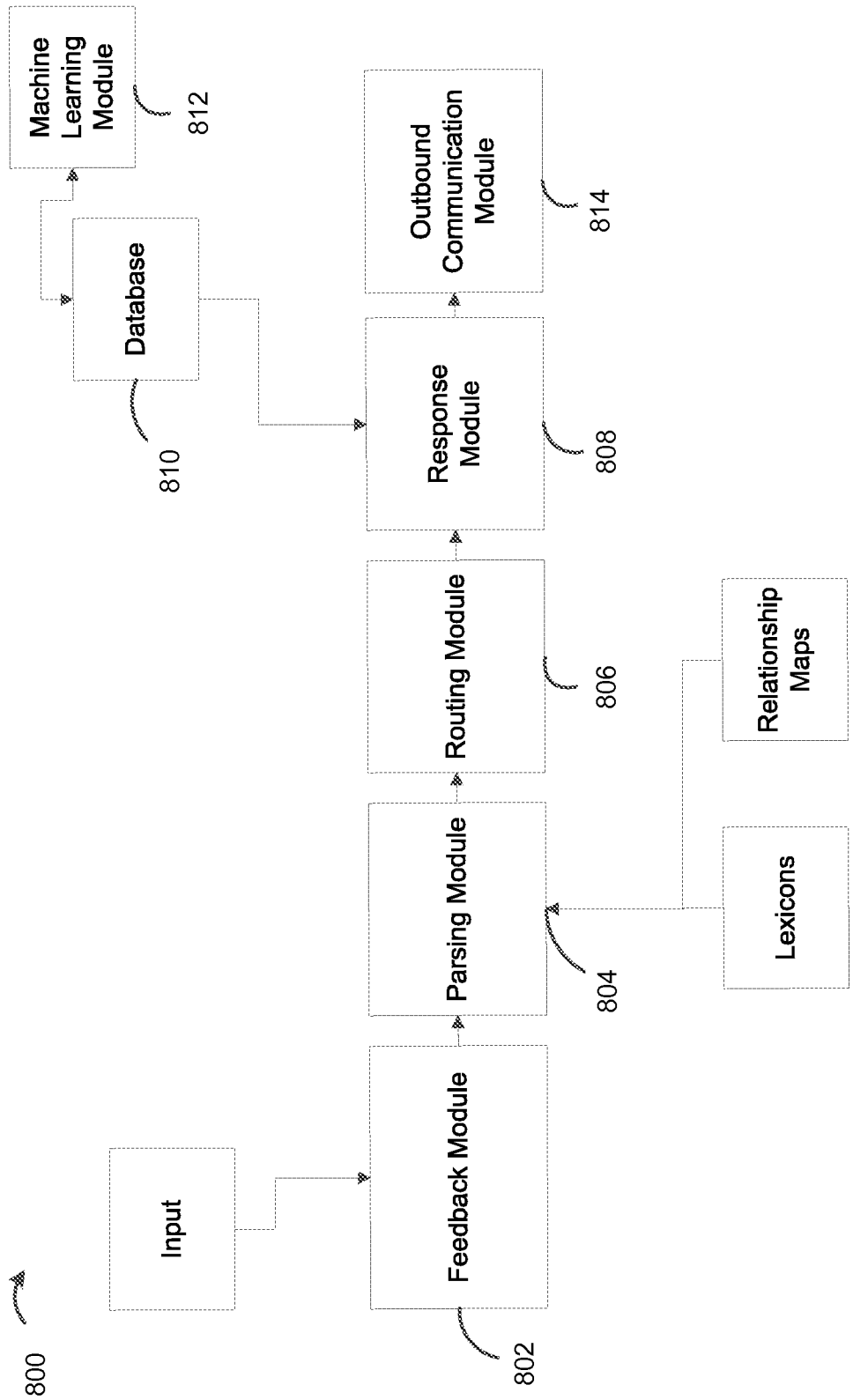
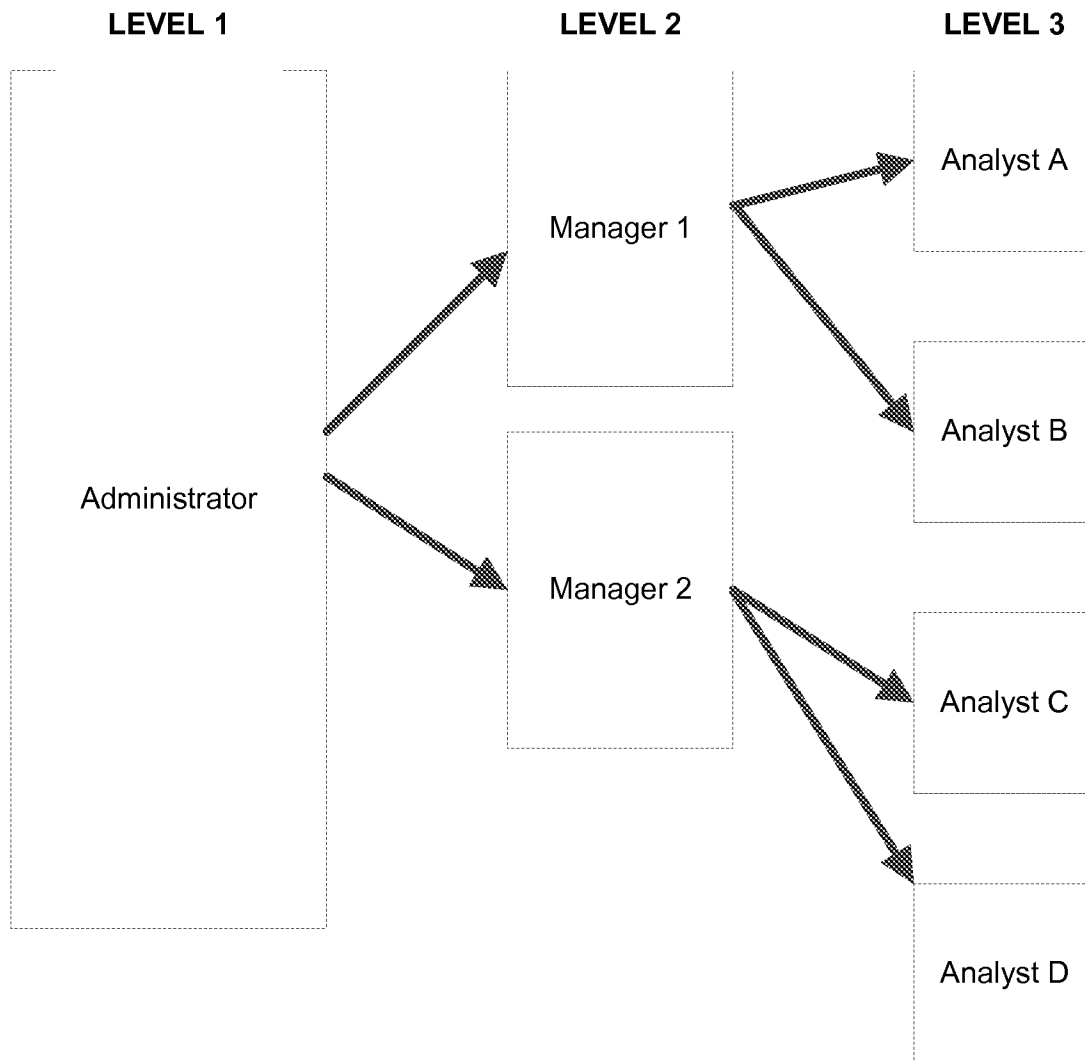


FIG. 8

**FIG. 9**

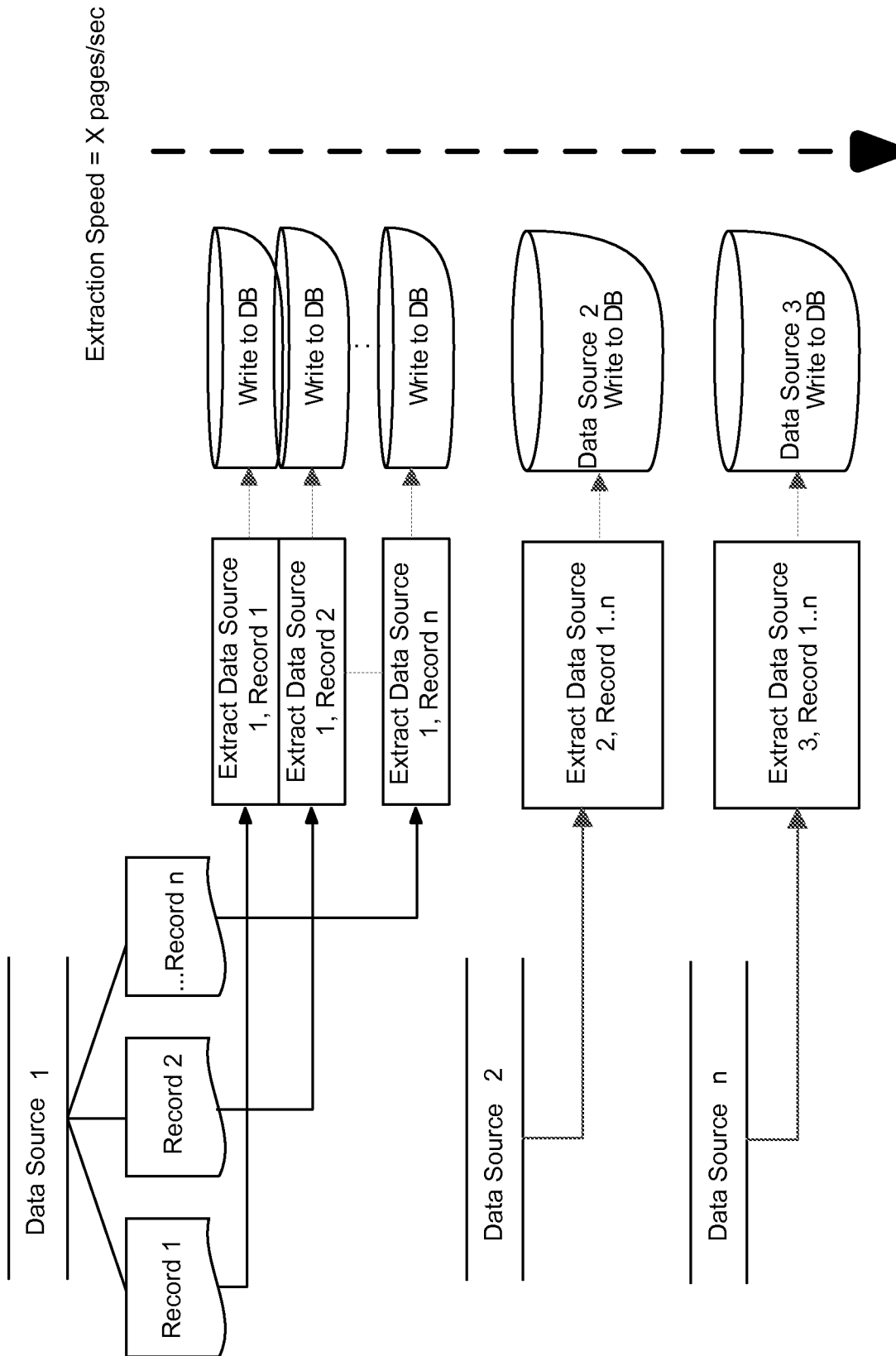


**FIG. 10A**  
(PRIOR ART)

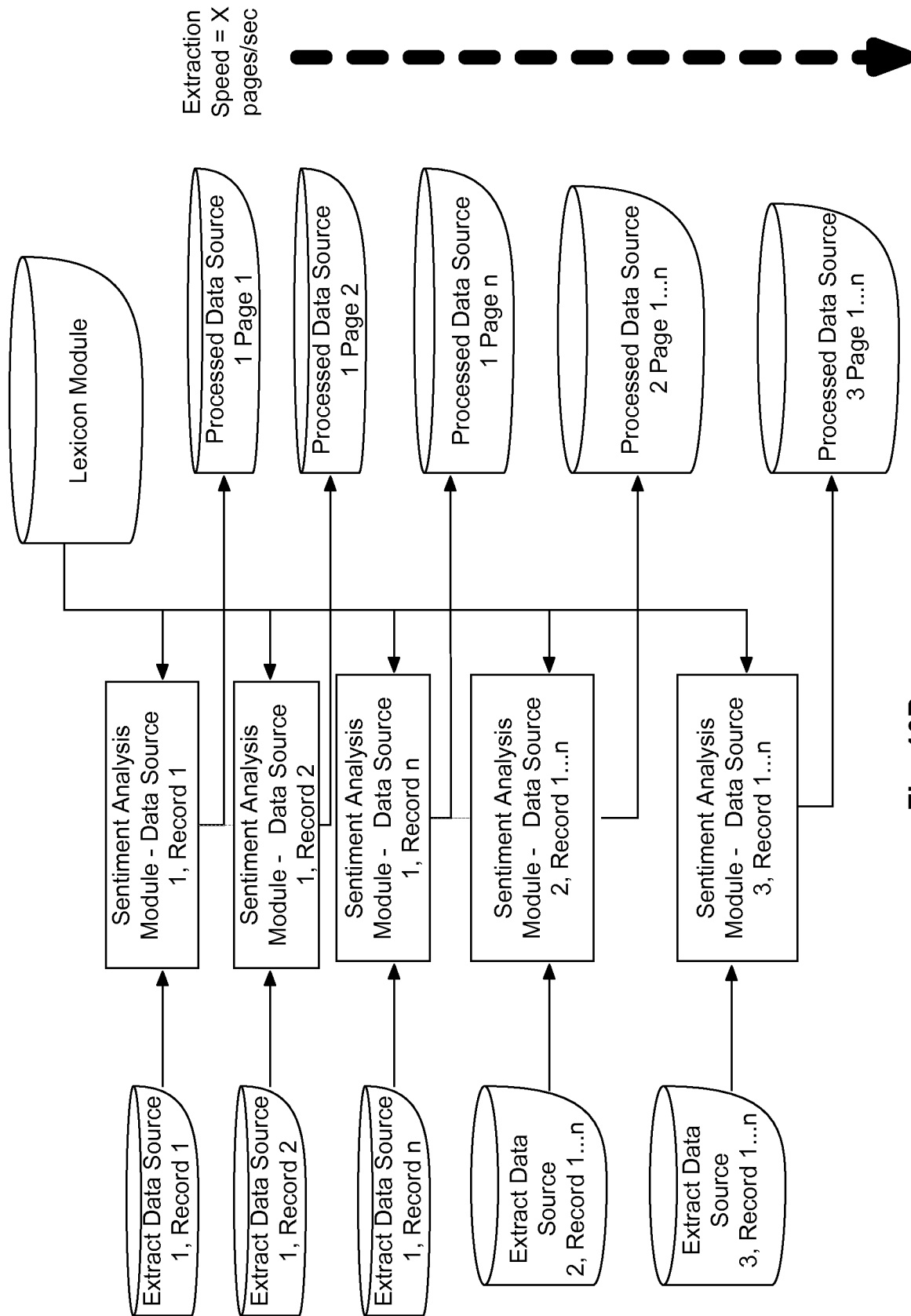


**Fig. 10B**  
(PRIOR ART)

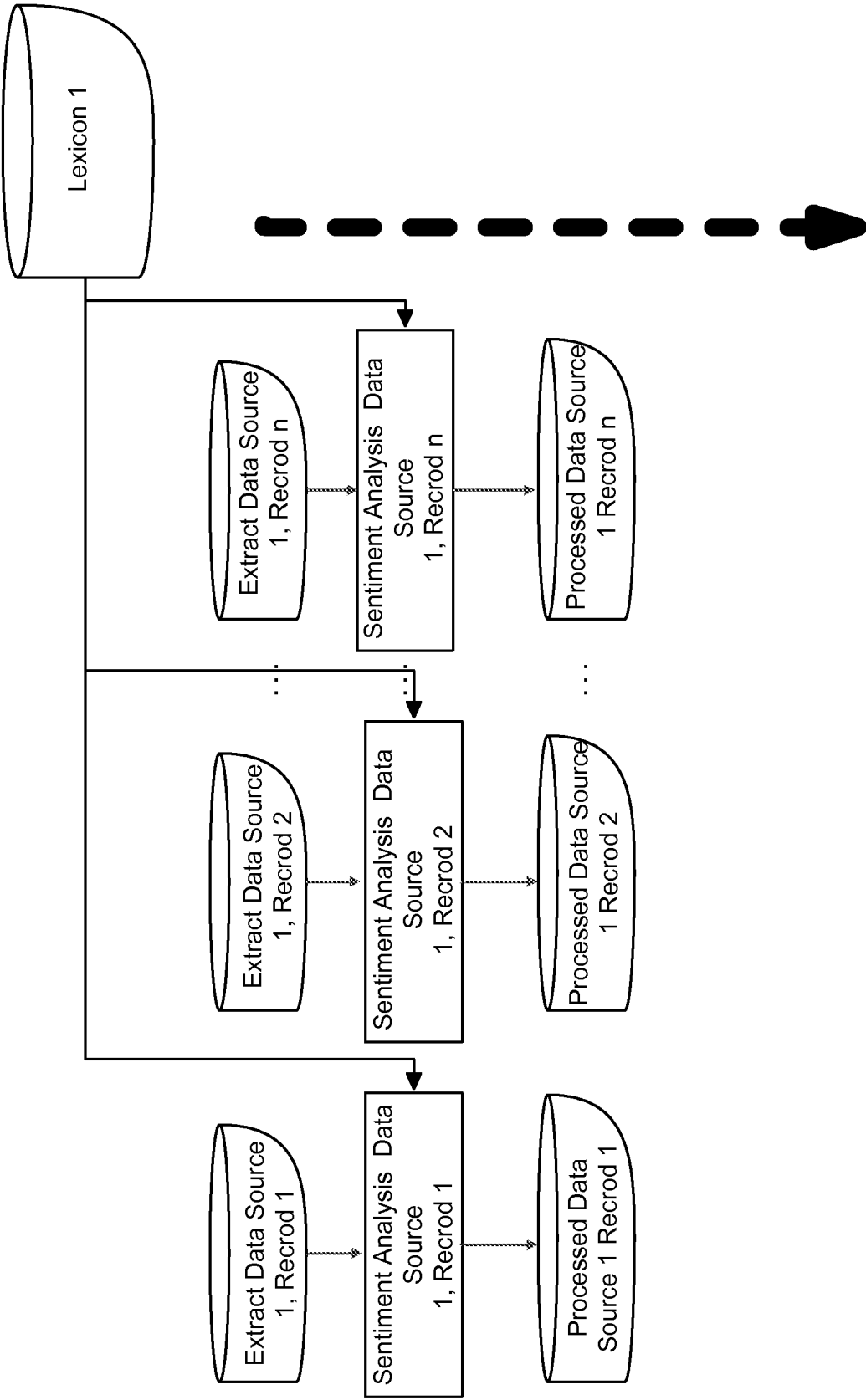


FIG. 10C

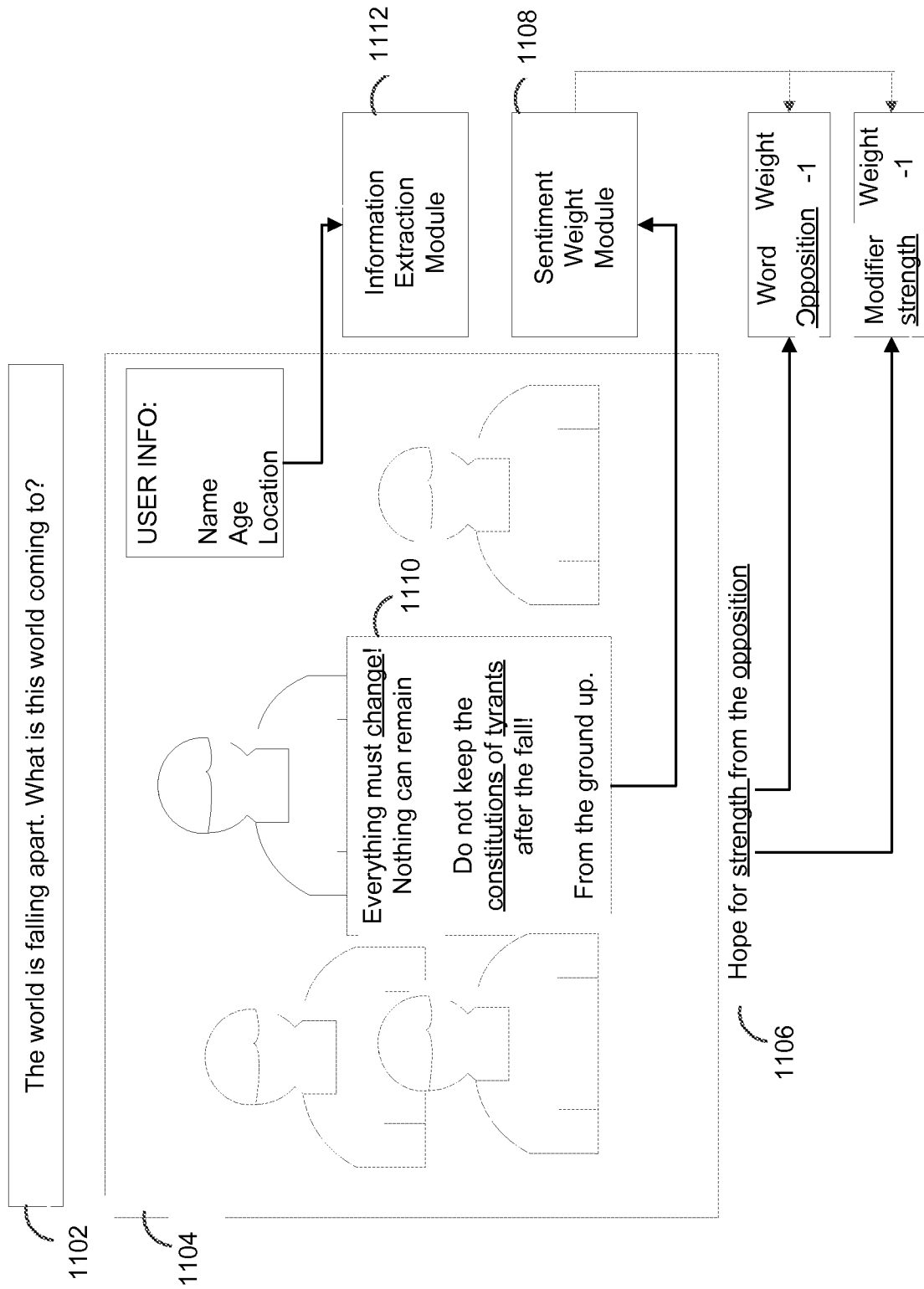


FIG. 11

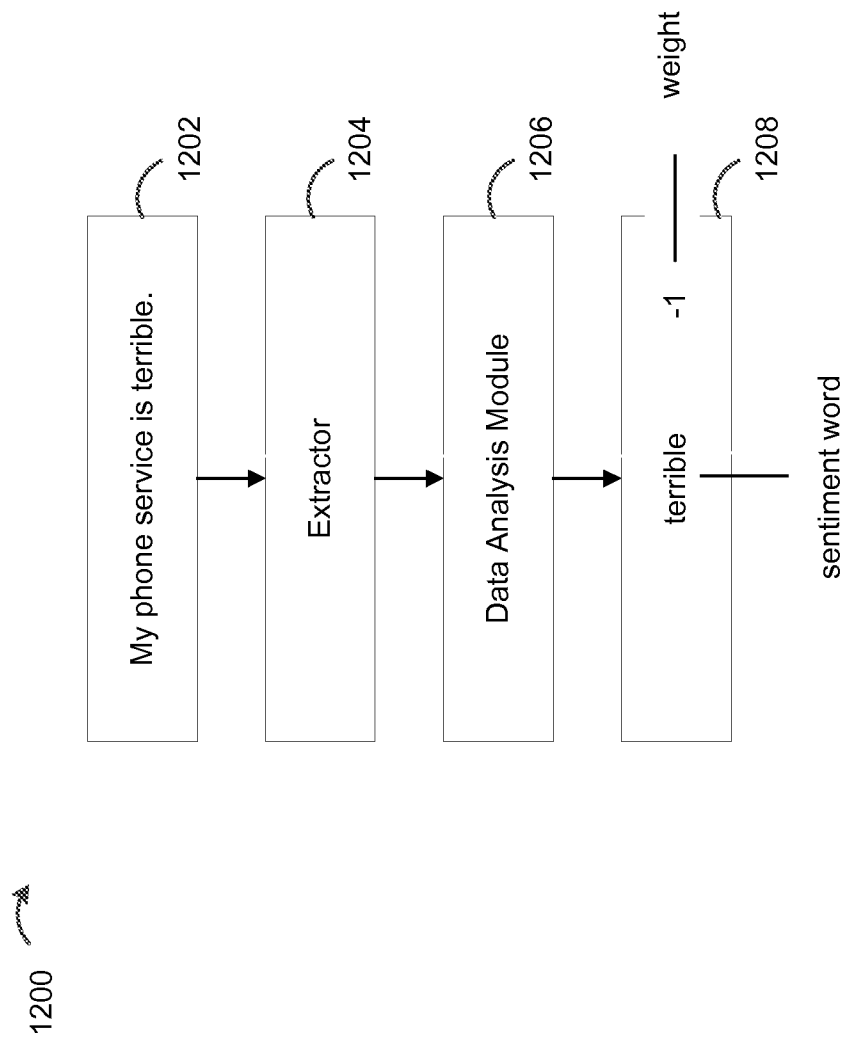


FIG. 12

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|                               |                                           |
|-------------------------------|-------------------------------------------|
| <b>Title of<br/>Invention</b> | <b>REAL-TIME AND ADAPTIVE DATA MINING</b> |
|-------------------------------|-------------------------------------------|

As the below named inventor, I hereby declare that:

This declaration is directed to: ☒ The attached application, or  
☐ United States application or PCT international application number \_\_\_\_\_  
filed on \_\_\_\_\_

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.

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**LEGAL NAME OF INVENTOR**

Inventor: Sharon Gill CHADHA Date (Optional) 19 June 2013

Signature: [Handwritten Signature]

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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| <b>Title of<br/>Invention</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>REAL-TIME AND ADAPTIVE DATA MINING</b> |
| <p>As the below named inventor, I hereby declare that:</p> <p>This declaration is directed to: <input checked="" type="checkbox"/> The attached application, or<br/><input type="checkbox"/> United States application or PCT international application number _____<br/>filed on _____</p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.</p> <p>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.</p> <p style="text-align: center;"><b>WARNING:</b></p> <p>Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.</p> |                                           |
| <p><b>LEGAL NAME OF INVENTOR</b></p> <p>Inventor: <u>Xin CHENG</u> Date (Optional): <u>19 June 2015</u></p> <p>Signature: <u></u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                           |
| <p>Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                           |

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| <b>Title of<br/>Invention</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>REAL-TIME AND ADAPTIVE DATA MINING</b> |
| <p>As the below named inventor, I hereby declare that:</p> <p>This declaration is directed to: <input checked="" type="checkbox"/> The attached application, or<br/><input type="checkbox"/> United States application or PCT international application number _____<br/>filed on _____.</p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.</p> <p>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.</p> <p style="text-align: center;"><b>WARNING:</b></p> <p>Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.</p> |                                           |
| <p><b>LEGAL NAME OF INVENTOR</b></p> <p>Inventor: <u>Parvinder CHADHA</u> Date (Optional): <u>June 19, 2013</u></p> <p>Signature: <u></u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                           |
| <p>Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                           |

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