

July 19, 2013

Re: CVDI Year 1 Intellectual Property Report:

- **CVDI Project 1 - Analyzing Social Media Content for Decision Making Based on Event Emergence**
- **CVDI Project 2 - Social Media for Decision Informatics with Application to Healthcare Management**
- **CVDI Project 3 - Multi-Industry Semantic Discovery Tool Sets for Data Integration, Data Warehousing, and E-Science**

Dear IAB Members:

We have completed our evaluation of the above referenced CVDI projects. In accordance with the CVDI Industry Membership Agreement and By-Laws you are entitled to obtain a non-exclusive, royalty-free license to any copyrightable software or patentable inventions that are developed in the course of the project.

The following tables describe intellectual property that may be available for licensing for each project. Project reports containing detailed information regarding the associated research results will be forthcoming. The ID numbers that appear in the tables are identified by the following pattern: [Patent | Copyright]-[Project #]-[IP #]

CVDI Project 1 - Analyzing Social Media Content for Decision Making Based on Event Emergence

Potentially patentable aspect(s) of the project:

IP ID	IP Description
P-1-1	System and methods for visualization of real-time social media data

Copyrightable aspect(s) of the project:

IP ID	IP Description
C-1-1	A software prototype capable of generating a real-time visualization of Social Media updates (tweets) moving across the screen as they are received by the system Languages/technologies: Java

CVDI Project 2 - Social Media for Decision Informatics with Application to Healthcare Management

Potentially patentable aspects of the project:

IP ID	IP Description
P-2-1	System and methods for extracting adverse drug reaction data from a social media network.
P-2-2	System and methods for detecting adverse drug reactions from data extracted from a social media network.

Copyrightable aspects of the project:

IP ID	IP Description
C-2-1	A web crawler capable of extracting adverse drug reaction data from the MedHelp social media network. Languages/technologies: Java, PHP, and MySQL
C-2-2	A prototype analysis tool capable of analyzing adverse drug reaction (ADR) data extracted from a social media network. The analysis tool accepts a set of user-selected drugs and an ADR, mines associations between the drugs and ADRs, generates strength measurements of the associations and displays the analysis results to the user. Languages/technologies: Java

CVDI Project 3 - Multi-Industry Semantic Discovery Tool Sets for Data Integration, Data Warehousing, and E-Science

Potentially patentable aspects of the project:

IP ID	IP Description
P-3-1	System and methods for extracting structured records from unstructured text data based on existing relational databases. Notable is that the methods do not rely on manually labeled training data.
P-3-2	System and methods for generating semantic annotations of unstructured text documents given ontology concepts and relationships
P-3-3	System and methods for faceted navigation of information extracted and aggregated

	from both structured and unstructured text.
P-3-4	System and methods for visual exploration of information extracted and aggregated from both structured and unstructured text.
P-3-5	System and methods for visual exploration of concepts extracted from simultaneously viewed text documents.

Copyrightable aspects of the project:

IP ID	IP Description
C-3-1	A prototype semantic discovery tool called SemIntegrator that can extract structured records for given relational databases from unstructured data and annotate text documents using given ontology concepts and relationships. Languages/technologies: Java, Protégé, Lingpipe, Stanford NER
C-3-2	A prototype search tool that enables faceted navigation of information extracted and aggregated from both structured and unstructured text. Languages/technologies: Java, Apache solr
C-3-3	A prototype search tool that enables visual exploration of information extracted and aggregated from both structured and unstructured text. Languages/technologies: HTML, SVG, and CSS, D3js, Gephi

Using the enclosed sheets please indicate whether the Industry Member that you represent wishes to obtain a non-exclusive royalty-free license to one or more of the subject IP items.

As outlined in section H of the Industry Member Agreement, if only one Industry Member wishes to obtain a non-exclusive license, that Industry Member will have the option to obtain an exclusive royalty-bearing license to be negotiated with the Academic Member(s) under separate agreement. Please also indicate whether, if only one Industry Member has elected the non-exclusive license for a particular IP asset, if the Industry Member that you represent desires to obtain an exclusive license.

Each Industry Member is asked to inform the Academic Member(s) in writing using the attached form of their desires with regard to the subject IP by 5 pm, Thursday, September 19, 2013. The Academic Member(s) will subsequently contact each Industry Member that has indicated interest in at least one IP asset to discuss the disposition and next steps associated with each IP asset of interest.

Please return an original signed copy of this letter and the attached sheets indicating your licensing desires by **5 pm, Thursday, September 19, 2013** to: Drexel University Office of Technology Commercialization, ATTENTION: Paul Dougherty, 3711 Market Street, Suite 750 Philadelphia, Pennsylvania 19104.

Sincerely,

Robert B. McGrath
Senior Associate Vice Provost

Cc: Paul Dougherty
Janette Hawkins

Enclosure

Read and Accepted.

Name

Signature

Date

[Member Company Name]
[Member Company Address]

Drexel University
Office of Technology Commercialization
3711 Market Street, Suite 750
Philadelphia, Pennsylvania 19104

Re: CVDI Year 1 Intellectual Property Report:

- **CVDI Project 1 - Analyzing Social Media Content for Decision Making Based on Event Emergence**

Dear Mr. Dougherty,

Please see the below table where we have indicated the IP assets associated with the subject CVDI project for which we desire to obtain a Non-Exclusive license and, if available, an Exclusive license to:

Potentially patentable aspects of the project:

IP ID	IP Description	Non-Exclusive License	Exclusive License	No License
P-1-1	System and methods for visualization of real-time social media data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Copyrightable aspects of the project:

IP ID	IP Description	Non-Exclusive License	Exclusive License	No License
C-1-1	A software prototype capable of generating a real-time visualization of Social Media updates (tweets) moving across the screen as they are received by the system Languages/technologies: Java	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name: _____

Signed: _____

Date: _____

Title: _____

Please sign, date and return this Agreement to Drexel University, Office of Technology Commercialization, ATTENTION: Paul Dougherty, 3711 Market Street, Suite 750 Philadelphia, Pennsylvania 19104.

[Member Company Name]
[Member Company Address]

Drexel University
Office of Technology Commercialization
3711 Market Street, Suite 750
Philadelphia, Pennsylvania 19104

Re: CVDI Year 1 Intellectual Property Report:

- **CVDI Project 2 - Social Media for Decision Informatics with Application to Healthcare Management**

Dear Mr. Dougherty,

Please see the below table where we have indicated the IP assets associated with the subject CVDI project for which we desire to obtain a Non-Exclusive license and, if available, an Exclusive license to:

Potentially patentable aspects of the project:

IP ID	IP Description	Non-Exclusive License	Exclusive License	No License
P-2-1	System and methods for extracting adverse drug reaction data from a social media network.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P-2-2	System and methods for detecting adverse drug reactions from data extracted from a social media network.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Copyrightable aspects of the project:

IP ID	IP Description	Non-Exclusive License	Exclusive License	No License
C-2-1	A web crawler capable of extracting adverse drug reaction data from the MedHelp social media network. Languages/technologies: Java, PHP, and MySQL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C-2-2	A prototype analysis tool capable of analyzing adverse drug reaction (ADR) data extracted from a social media network. The analysis tools accepts a set of user-selected drugs and an ADR, mines associations between the drugs and ADRs, generates strength measurements of the	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	associations and displays the analysis results to the user. Languages/technologies: Java			
--	---	--	--	--

Name: _____

Signed: _____

Date: _____

Title: _____

Please sign, date and return this Agreement to Drexel University, Office of Technology Commercialization,
ATTENTION: Paul Dougherty, 3711 Market Street, Suite 750 Philadelphia, Pennsylvania 19104.

[Member Company Name]
[Member Company Address]

Drexel University
Office of Technology Commercialization
3711 Market Street, Suite 750
Philadelphia, Pennsylvania 19104

Re: CVDI Year 1 Intellectual Property Report:

- **CVDI Project 3 - Multi-Industry Semantic Discovery Tool Sets for Data Integration, Data Warehousing, and E-Science**

Dear Mr. Dougherty,

Please see the below table where we have indicated the IP assets associated with the subject CVDI project for which we desire to obtain a Non-Exclusive license and, if available, an Exclusive license to:

Potentially patentable aspects of the project:

IP ID	IP Description	Non-Exclusive License	Exclusive License	No License
P-3-1	System and methods for extracting structured records from unstructured text data based on existing relational databases. Notable is that the methods do not rely on manually labeled training data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P-3-2	System and methods for generating semantic annotations of unstructured text documents given ontology concepts and relationships	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P-3-3	System and methods for faceted navigation of information extracted and aggregated from both structured and unstructured text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P-3-4	System and methods for visual exploration of information extracted and aggregated from both structured and unstructured text.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P-3-5	System and methods for visual exploration of concepts extracted from simultaneously viewed text documents.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Copyrightable aspects of the project:

IP ID	IP Description	Non-Exclusive License	Exclusive License	No License
C-3-1	A prototype semantic discovery tool called SemIntegrator that can	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	extract structured records for given relational databases from unstructured data and annotate text documents using given ontology concepts and relationships. Languages/technologies: Java, Protégé, Lingpipe, Stanford NER			
C-3-2	A prototype search tool that enables faceted navigation of information extracted and aggregated from both structured and unstructured text. Languages/technologies: Java, Apache solr	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C-3-3	A prototype search tool that enables visual exploration of information extracted and aggregated from both structured and unstructured text. Languages/technologies: HTML, SVG, and CSS, D3js, Gephi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name: _____

Signed: _____

Date: _____

Title: _____

Please sign, date and return this Agreement to Drexel University, Office of Technology Commercialization, ATTENTION: Paul Dougherty, 3711 Market Street, Suite 750 Philadelphia, Pennsylvania 19104.