

**University of New Brunswick  
Faculty of Computer Science**



**CS6795 Semantic Web Techniques  
Project Proposal, Fall 2011**

**Title: BuyerRelation:Buyer-Centric Product Filtering  
with  
GoodRelation and RuleML**

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## **Abstract:**

Seller-centric product recommendation rules have been realized in various RuleML projects. In this work, we focus on Buyer centric product filtering which makes use of RuleResponder integrated with GoodRelation vocabulary, which is a lightweight, generic Semantic Web vocabulary for expressing all typical aspects of offers about products and services on the Web. *BuyerRelation* filter the offers from the sellers as well as the rules posted by the buyers based on GoodRelation vocabulary for finding out the perfect match.

Keywords: Good Relations vocabulary, RuleML, BuyerRelation, Productfiltering

## **Introduction:**

In today's hyper communicative and technology dominated world it does not matter what business people are doing, although every kind of business needs some creative ways to spread the word about their business. So we are making this project to overcome this scenario by using product filter to advertise their products and services to the people who really need it (buyers).

In this project, *BuyerRelation: Buyer-Centric Product Filtering with GoodRelation and RuleML*, we use a virtual organisation agent(OA) to filter the offers from the sellers as well as the rules posted by the buyers for finding out the perfect match. If the OA finds out the perfect match, then the buyers will be intimated automatically through Personal Agent (PA).This would make advertising and searching of products and services much easier for business organizations.

## **Objective:**

In our daily life, people often search for a particular type of product or service on the Web. Using standard search engines like Google or others can be a frustrating experience. There are a number of reasons.

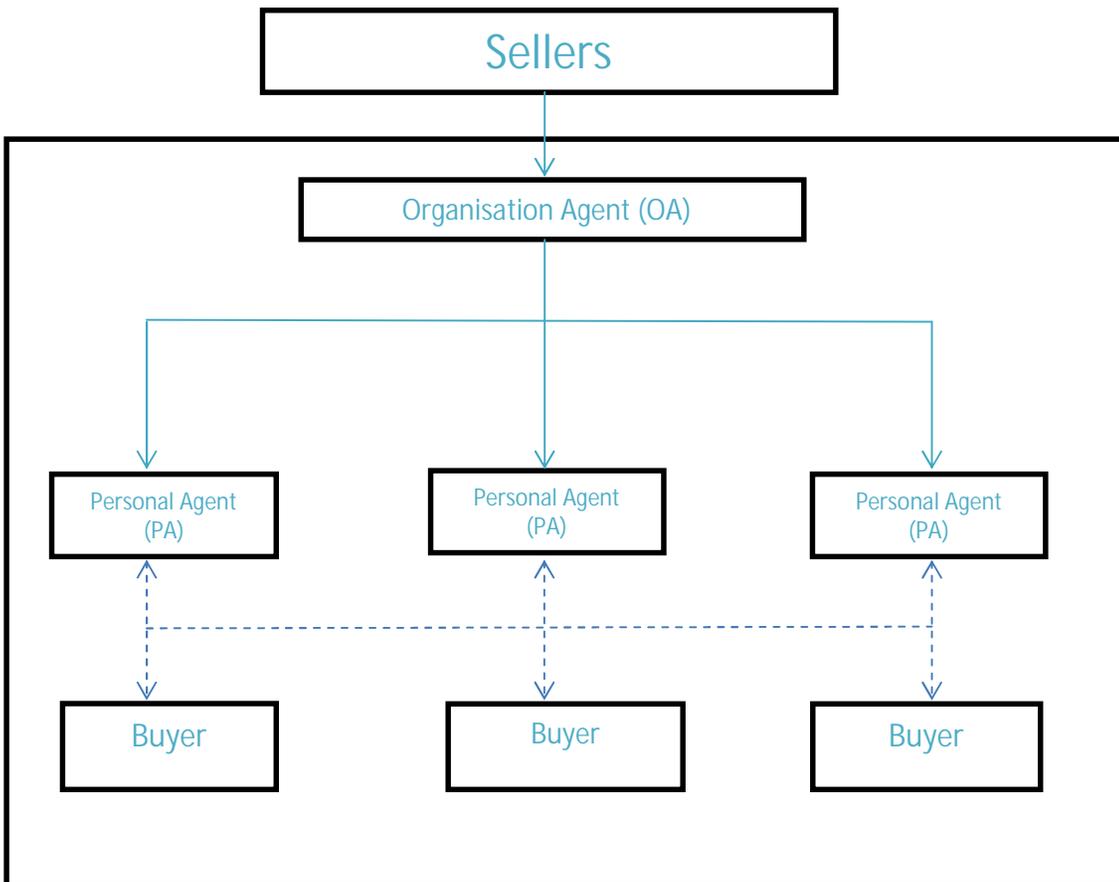
*First* of all, if you want to search for a product, you have to know the exact meanings and very same words. For example, if you search for "CAD", you won't get the same page that use "computer aided-design". *Second*, you limit your searching domain if you offer a certain search. *Third*, sometimes you want to search for a special requirement that most of the offers do not meet, or your search is based on a less common meaning of a very popular term, the current search is not very satisfied for these requirements. To overcome the current web technology's defects, our project is for making up the current searching methods by integrating Rule Responder with GoodRelation. The project will be useful for sellers and manufacturers, because it makes sure the particular features and strengths of their products or services are considered by Semantic Web search engines, and it is good for buyers, because it allows them to find offers that exactly fit their requirements.

## **Methodology:**

Various steps in building BuyerRelation are as follows:

1. BuyerRelation shall be an instantiation of Rule Responder for GoodRelation offer filtering that is built, tested, and illustrated in Office products and services.
2. Offers and products shall be described, respectively, with the Good Relation vocabulary [5] and the eClassOWLontology[6]
3. Buyers in the domain shall be organized as a Rule Responder virtual organization (RVO).
4. Incoming offers from sellers shall be pre-filtered by BuyerRelation's Organizational Agent (OA), which shall dispatch good candidate offers to the potentially most interested BuyerRelation Personal Agent (PA), which assists a group of human buyers associated with that particular PA.

5. The PA shall use its local RuleML rule base to decide whether the offer may be interesting for its human owner, perhaps with modifications, sending its decision back to OA and hence to seller.



## Tools and Technologies:

In this work, we will use the following tools and technologies.

1. **GoodRelation** is a vocabulary tool to describe products with the more details and also in a way to make it easy to find your products in search engine.

2. **Rule Responder** is the tool to organize the virtual structure of our project. We develop Personal Agent, External Agent, etc. It is the link between the query and the search.

3. **RuleML** is written in XML language and used for deduction in forward and backward way.

4. **Ontology Editor: Protégé** is a free and open source ontology editor and knowledge-base framework. Based on Java it makes an environment flexible for rapid prototyping and application development

5. **Rule Engine: OO jDREW** is a tool written in Java for rule ML. It is a deductive reasoning engine. OO jDREW implements Object Oriented extensions to RuleML which include:

- Order Sorted Types
- Slots
- Object Identifiers

## **Conclusion:**

In conclusion, *BuyerRelation* will act as a virtual organization to help buyers find interesting offers from various sellers. The integration of rule responder with Good Relation vocabulary makes the search of buyer much more convenient. With this work, the features and strengths of sellers products are considered by Semantic Web search engines, and enables buyers to search for appropriate products, which best fits their requirements.

## **Time and Schedule:**

November 7, 2011: Project proposal due  
November 9, 2011: Framework design  
November 15, 2011: Implementation  
November 21, 2011: Presentation  
December 19, 2011: Final Report submission

## **References:**

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2. WellnessRules: <http://ruleml.org/WellnessRules>
3. PatientSupporter: <http://ruleml.org/PatientSupporter>
4. Rule Responder Guide: <http://ruleml.org/RuleResponder/RuleResponderGuide>
5. GoodRelation: <http://www.heppnetz.de/projects/goodrelations>  
<http://www.heppnetz.de/projects/goodrelations/primer>
6. eClassOWL: <http://www.heppnetz.de/projects/eclassowl>