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Editing the Knowledge? Some Authoring Dilemmas about Collaborative Era of Knowledge Management

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Summary

Secrets of knowledge management tools are the following: the knowledge may be textually explicated, these categories must be marked-up, and representations can be edited. Different tools may support such editing today, as they rapidly develop. Precisely defined knowledge can be presented to humans more or less quickly and amazingly, represented to a machine, and exchanged through the recommended categorical frame-based languages (OWL) due to Semantic Web project of the World Wide Web Consortium to extending ability of the World Wide Web. Categorically represented data can be integrated by different applications and from different locations, searched and inferenced with machine programs based on a description logic. Choosing and working with some of the semantic-oriented tools, not ignoring Web semantic integration is vision of leaving information confusion and facilitating methodologies of modern knowledge society not in declarative way. Such an approach is tending to redefine not only e-learning but the whole concept of education and working. What can some communities achieve in that respect?

Berner Lee's and some others visions

Modern societies are rapidly reinvestigating the matter of knowledge, its use, and reuse, mostly using modern technology. Many communities are trying to find better ways toward *rapidly changeable knowledge society* by discovering relatively few but important starting concepts for most accurate knowledge spaces. Such intentions aim to facilitate first - better ways of creating, producing, generating and using knowledge more responsibly and second – to push creators of knowledge management tools and knowledge creators in preparing and publishing knowledge in a way more suitable for people and machine processing. These new ways tend to be much more appropriate for interrogating than the ones used today, which are mostly based on, for machine, not enough structurally marked-up documents, only through indexed words crunched from Syntactic Web. *"The Semantic Web is a vision: the idea of having data on the Web defined and linked in a way that it can be used by machines not just for display purposes, but for automation, integration and reuse of data across various applications."* (D. Beckett's, 1**)**
(Futile, but intriguing question can be why the word was waiting years of Berner Lee's maturing from syntactic to semantic vision for leading the Web?). See some other visions bellow.

Programmed teaching was and linear school teaching is just being prepared to go to a history archive of misunderstanding human nature. Because of many indefinable ways of human cognition, according to ***B. Žarnić*** (2) good educational environment can only try to prepare learning process in some ways homomorfic to the structure of thing which it is describing or to process through which that thing was discovered. We can only try to support pupils in their knowledge motivation and facilitate

knowledge management to create more accessible knowledge space in forms optimal for modern extracting, representing and processing tools.

Some knowledge presentation and representation essentials

If we make some «reversed engineering» of most frequently used contexts and meanings of the term «knowledge» on the Web, we can extract opinions, works and software based on authors beliefs that, by using today's technology, knowledge:

- is something whose properties we discover from nano- to macro-nature and through human culture articulation, from languages articulation and their unknown meanings of part and functions involved in speech, literature, film, graphic and sound presentation, understanding of roles and institutional organization...

- must become *global collective property* according to Open Source initiative, regards ***B. Težak's*** explanations about danger of isolated knowledge and with ***A. and D. Bilandžić's*** (3) classification of *ownership*s and their dominant role through exchanging it in history (misunderstanding in perception of knowledge leads to billing it as private property for too long - for example, some Mirosoft's and other proprietary software products).

- although its representational quantity may overlap human reading capacity and can be for internal use transformed in "binary" forms, all its externally loaded segments must be readable by human and possible to process and classify by a machine (without neural network, genetic algorithms, or freedom of inconsistency).

- must be easy reproducible and have as much transferable and reusable forms as possible with today's networked technology - more reusable than today's knowledge practiced in many "modern" e-learning environments without enough sense in it.

- must support today's (success in?) techniques of *manual manipulation of knowledge presentation part - real manipulation with hands* by touching and pointing, cutting and pasting, inserting and deleting, dragging and dropping, can be collected by capturing with many multimedia equipment, which is not very expensive, may be discovered for mining and extracted from data and data bases by not standard and more or less complicated techniques.

- (but, what's in today's topic efforts), *must have adaptive and effective forms for automatic and not manual managing* whose characteristics are *opposite to stove piping* parts or layers in locally integrated systems, in databases with different schemas, in no reusable parts of knowledge presentation, and different ways of knowledge representation. Mixing layers of knowledge in a stone (mixing in programs code, or locked in pdf, or pictured or filmed e.g. text symbols) is, for everyday (re)use worse option suitable only when there is no better option for intended purpose (art, pyramids, and other monuments, and crypting needs).

- is something for which success in finding *enough flexible way of standardization* is an accelerating part of it and its underlying information industry which is, absurdly, full of disparate "standards" with "baroque parts" - for example, in programming languages (sentence of Mozart's environment programming people -

http://www.mozart-oz.org/). After digitizing analogue signal, there has been an equally big development made by using textually based metadata "technology", with its strong push through concepts involved in SGML, and thereafter in XML, RDF, RDF/XML, RDF+OIL and OWL.

- is something what informatics technology space must be represented for and tagged for a machine and a human in textual (symbolic) forms. It must be meta-described, explicitly structured (with tags, or pragmatems), with synchronically integrated parts (with SMIL, multimodal and other markup languages), and interconnected in some (today again touchable - mouse, finger, pencil) hypermedia ways (through direct XLink, XPath, or by way of some semantic hierarchy in ontology's). It must somewhere have its unique denotation (through namespaces) and must be annotated (mapped) in a natural language for human understanding.

- should have a textual computer representation that can be directly homomorfically transformed in a graphic presentation.

- in computer environment it must be represented by using description logics or (and) rules.

- is most flexible and possible to process when represented in the form of a statement or simple sentence composed of *subject*, *predicate* (atribut, aspect, kind of relation, action etc.), and *object* (denoted part, terminal string, literal); every part can have constrains and other properties uniquely described somewhere through a so-called ontology organization.

- after some kind of categorically-enabled query, through some sort of automated inference, it can produce reasoning and answering similar to “human thinking.”

- should have more technologically supported mobility access, needs more discovering and implementing security, and other pragmatic aspects (see upper part of BL cake, *http://www.w3.org/2002/Talks/04-sweb/slide12-0.html*), needs a new approach and careful and better managing of millions of e-mail chunks (opinion from ***HP Labs*** presented on IDC Storage Roadshow in Zagreb, 2004).

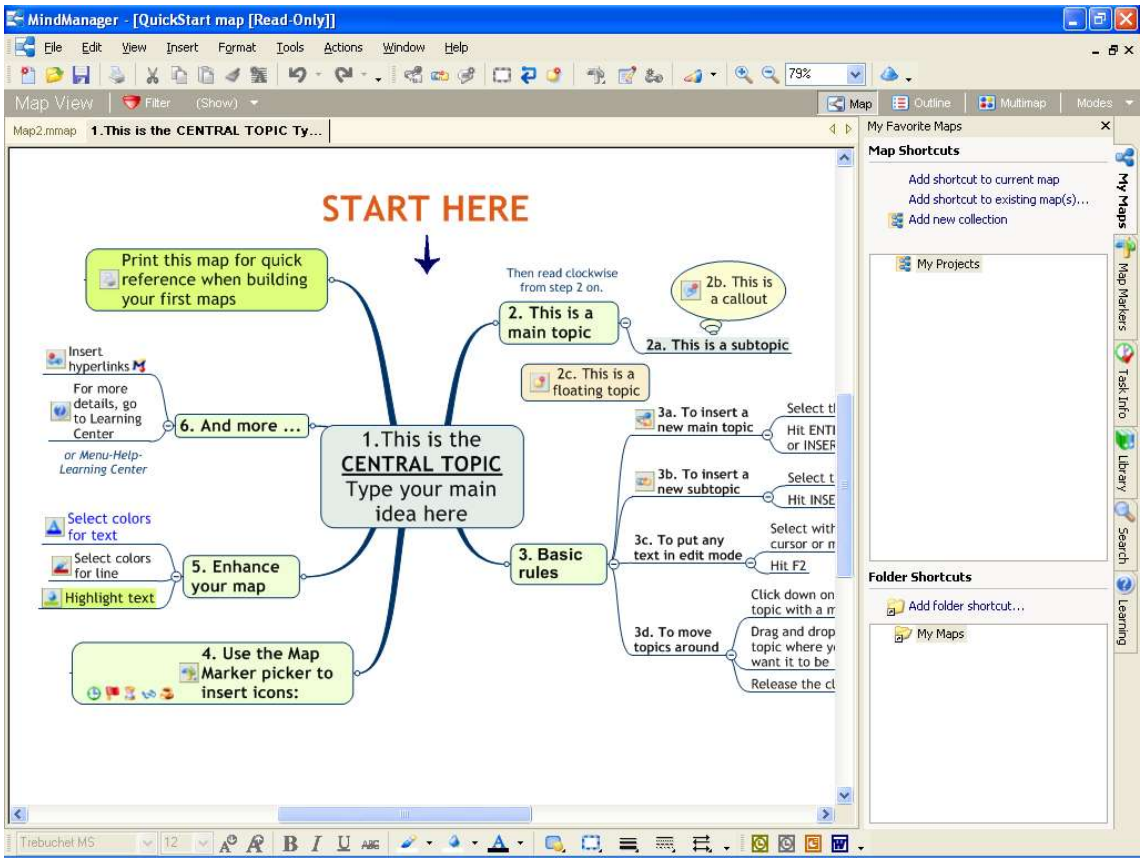
Impressive may be a warning in "Knowledge Production or Why Some Society and Some Institution Want to Learn*"* by ***Z. Rešetar*** (3), that *modern society will not survive if its education and products will not be based on intensive knowledge production*. Impressive is the effort of different knowledge tools in word producing, and we will try to point out some of them in the rest of this work. Impressive is the number of organizations who work on a standardization of these fields (ADL SCORM, AICC, ARIADNE, BSI, CEN ISSS, DCMI, IEEE LTSC, ISO, and PROMETEUS). But impressive is also a *relatively slow acceptance* and use of these methodologies by some communities in their "informatization" and "internetization", especially in the field of health, education, and administration - with promising not-semantically-integrated information technologies.

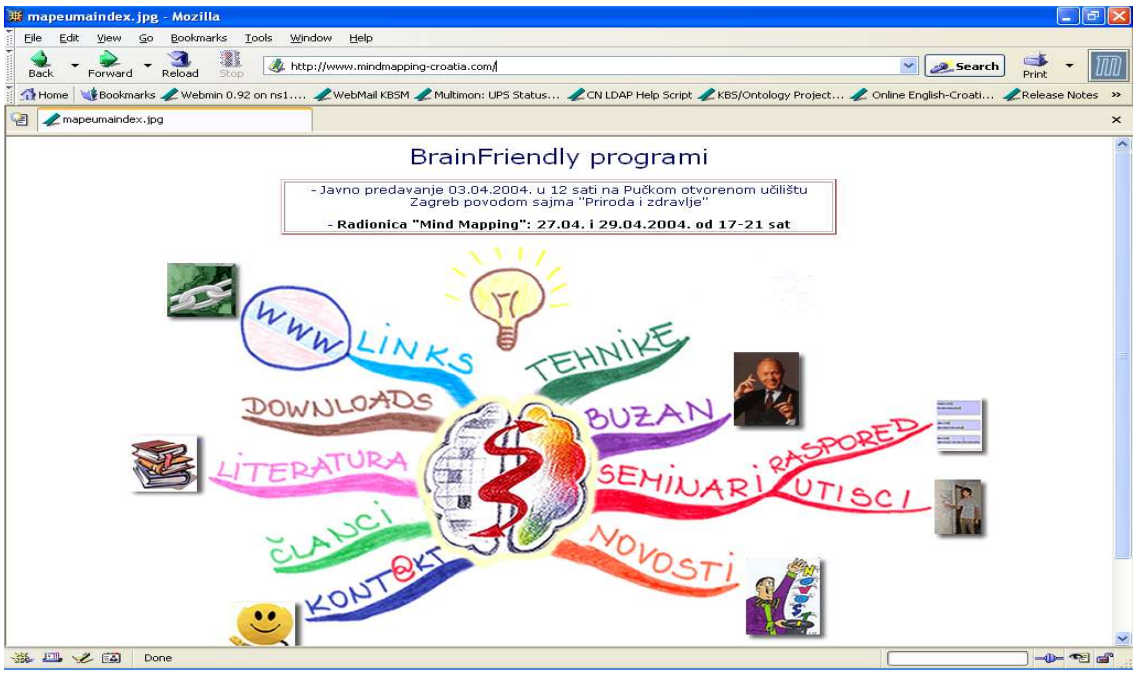
Some of the tools

Authors hope that an overview of selected knowledge tools can be one of the possible ways to involve people in better understanding of serious efforts invested in this field and facilitate the use of that technology in their environment. (For a complex overview of all tools and other Semantic Web technologies, the main address is *http://www.w3.org/, and some others http://www.w3.org/2001/sw/Europe/, http://www.ktweb.org/, http://en.wikipedia.org/wiki/Semantic_web*...):

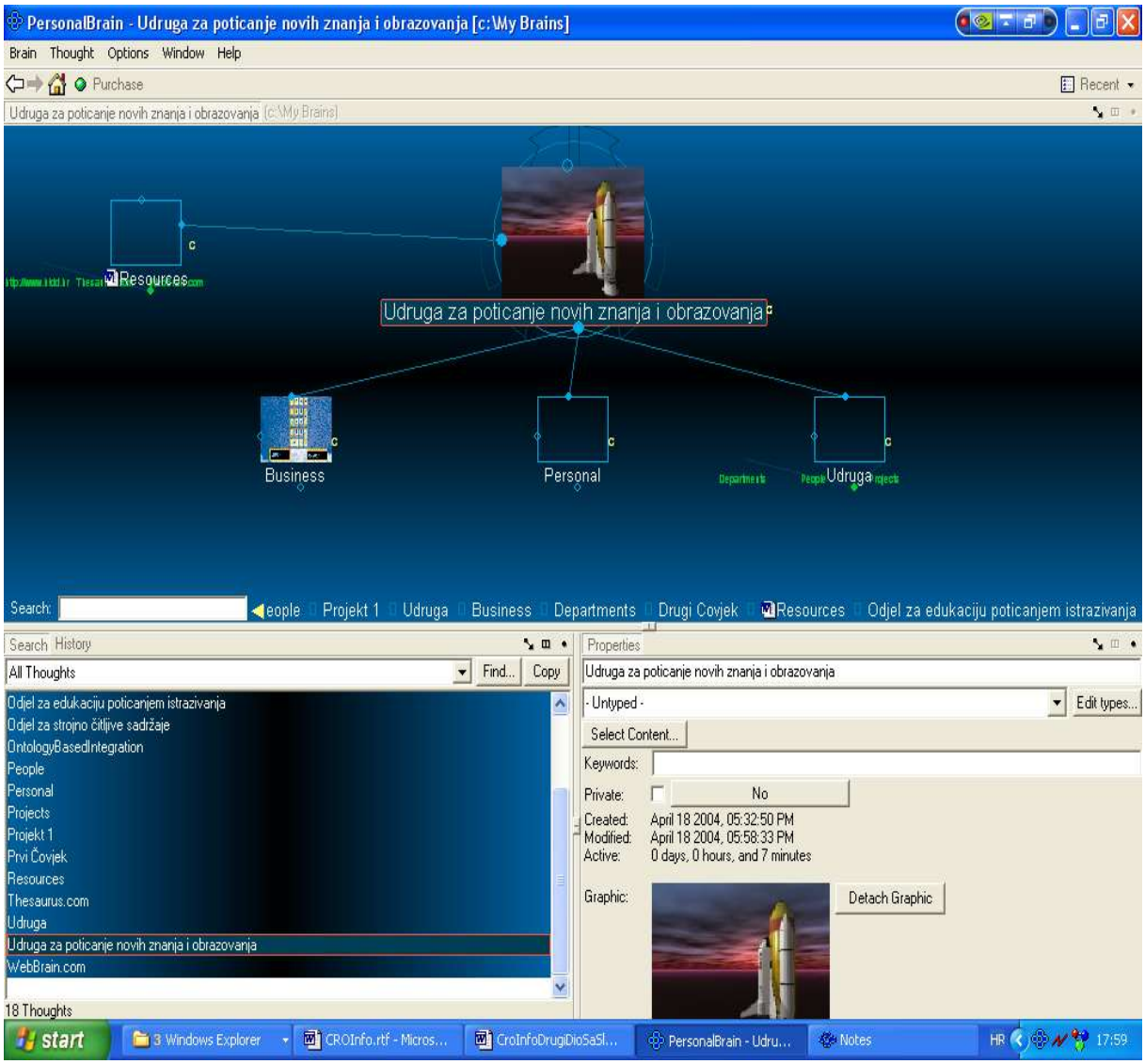
in presentation environment

- MindManager Pro 5.1.215 http://www.mindjet.com/eu/, http://www.mindmapping-croatia.com MindManager®, Mindjet's visual tool for brainstorming and planning, offers business professionals a more effective way to electronically capture, organize, and communicate information and ideas.



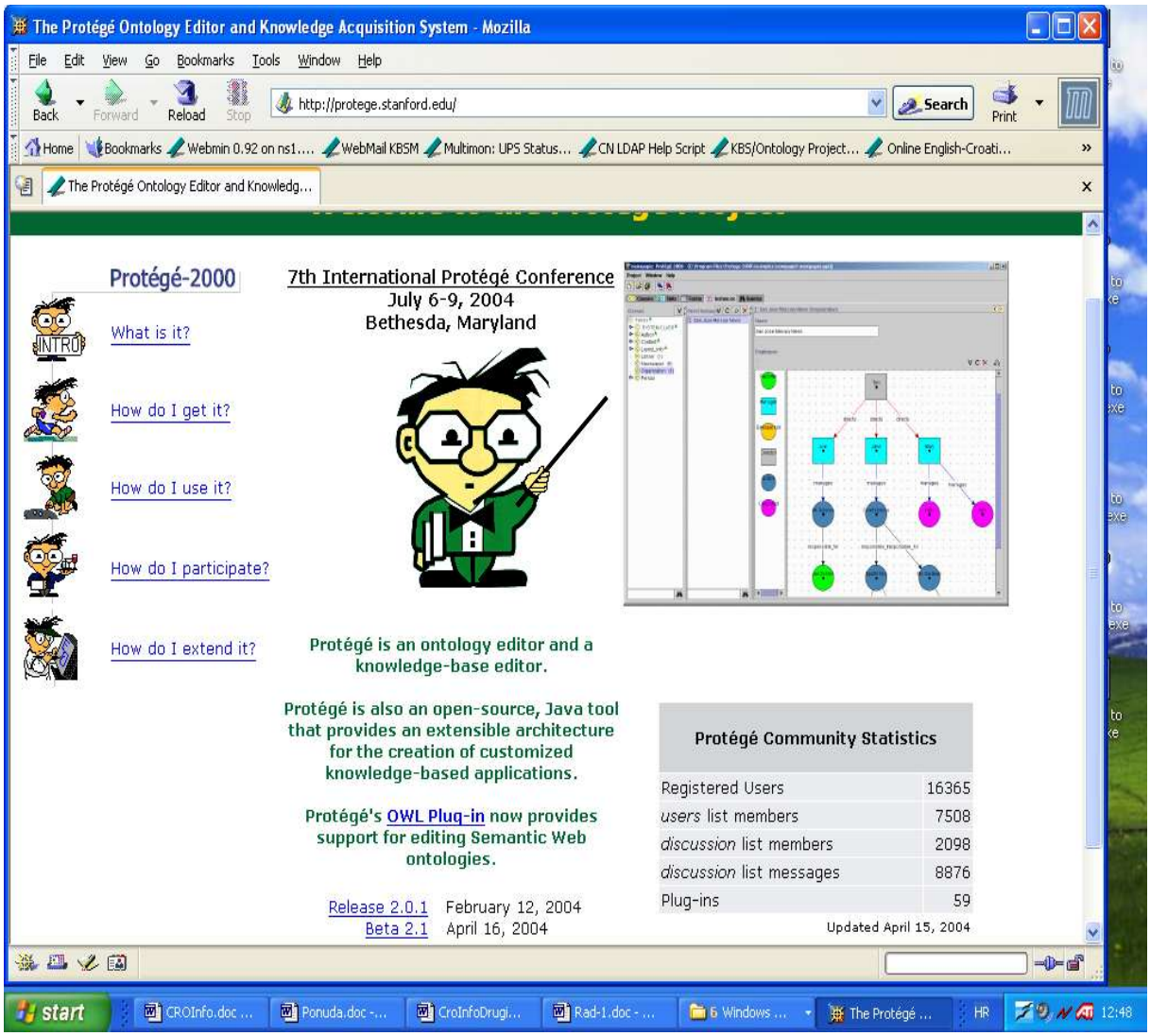


- PersonalBrain 3.02, http://www.thebrain.com/
It allows creating a simple, dynamic graphical map in which you can put and navigate all information.



in representation and presentation client **environment**

- Protégé-2000, **http://protege.stanford.edu/** is an integrated software tool used by system developers and domain experts to develop ***knowledge-based systems.*** Applications developed with Protégé-2000 are used in problem-solving and decision-making in a particular **domain**.


The Protégé Ontology Editor and Knowledge Acquisition System - Mozilla
File Edit View Go Bookmarks Tools Window Help
Back Forward Reload Stop
http://protege.stanford.edu/
Search
Print
Home Bookmarks Webmin 0.92 on ns1.... WebMail KBSM Multimon: UPS Status... CN LDAP Help Script KBS/Ontology Project... Online English-Croati...
The Protégé Ontology Editor and Knowledg...
Protégé-2000
What is it?
How do I get it?
How do I use it?
How do I participate?
How do I extend it?
7th International Protégé Conference
July 6-9, 2004
Bethesda, Maryland
Protégé is an ontology editor and a knowledge-base editor.
Protégé is also an open-source, Java tool that provides an extensible architecture for the creation of customized knowledge-based applications.
Protégé's OWL Plug-in now provides support for editing Semantic Web ontologies.
Release 2.0.1 February 12, 2004
Beta 2.1 April 16, 2004
Protégé Community Statistics
Registered Users 16365
users list members 7508
discussion list members 2098
discussion list messages 8876
Plug-ins 59
Updated April 15, 2004
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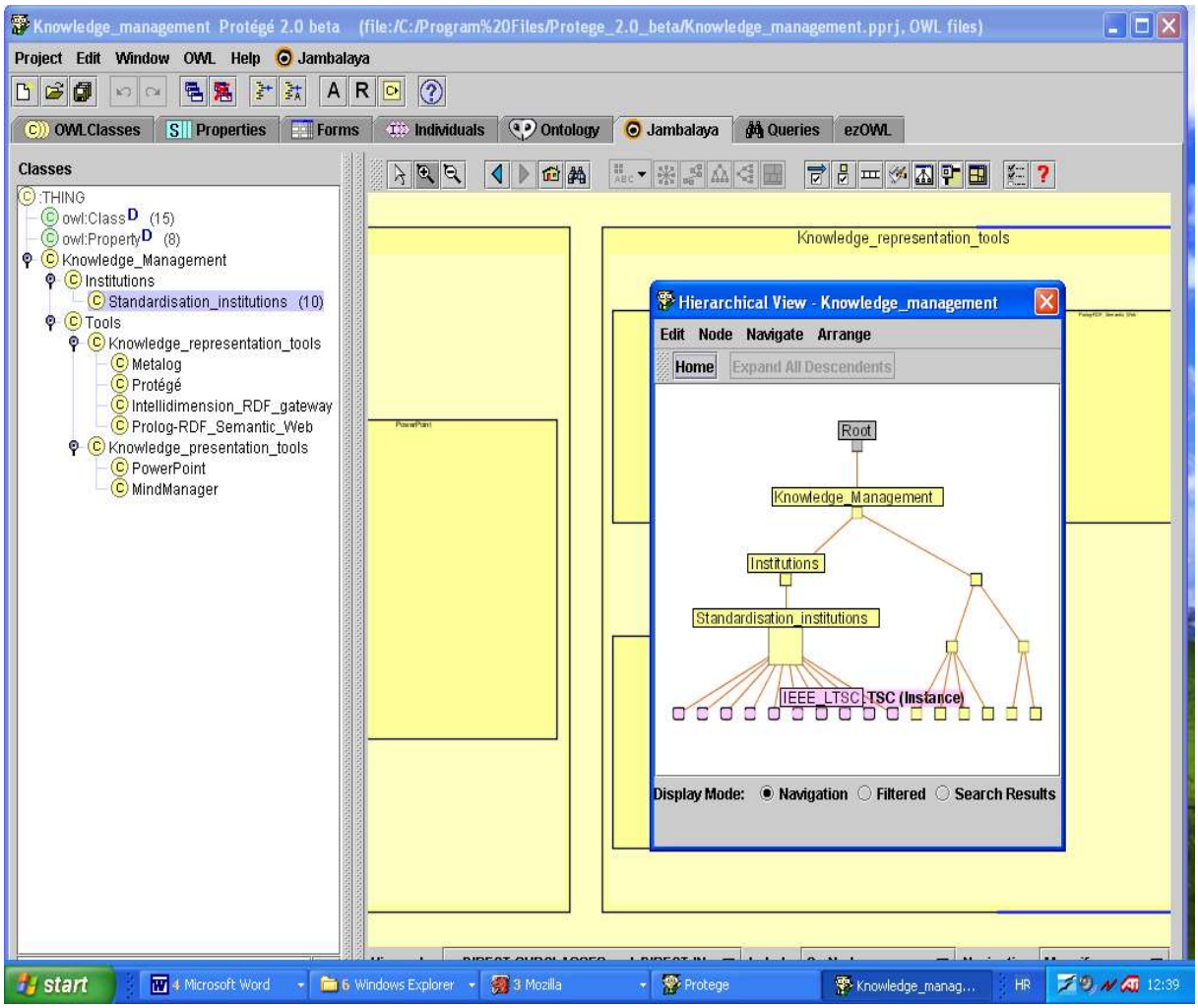
Knowledge_management Protégé 2.0 beta (file:/C:/Program%20Files/Protege_2.0_beta/Knowledge_management.pprj, OWL files)
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OWLClasses Properties Forms Individuals Ontology Jambalaya Queries ezOWL
Classes
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Knowledge_Management
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Standardisation_institutions (10)
Tools
Knowledge_representation_tools
Metalog
Protégé
Intellidimension_RDF_gateway
Prolog-RDF_Semantic_Web
Knowledge_presentation_tools
PowerPoint
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Knowledge_representation_tools
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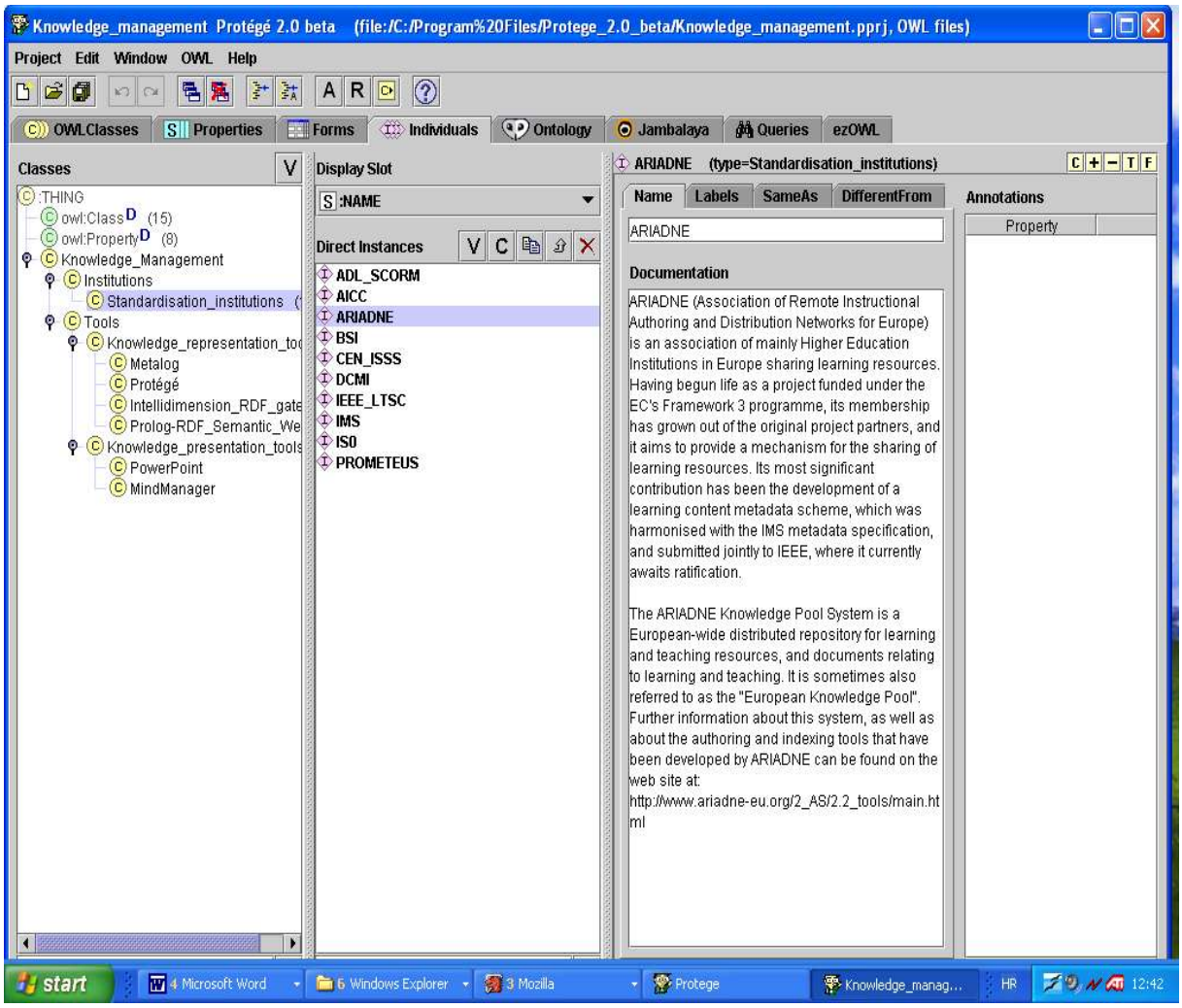
Knowledge_management Protégé 2.0 beta (file:/C:/Program%20Files/Protege_2.0_beta/Knowledge_management.pprj, OWL files)
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owl:Property (8)
Knowledge_Management
Institutions
Standardisation_institutions
Tools
Knowledge_representation_too
Metalog
Protégé
Intellidimension_RDF_gate
Prolog-RDF_Semantic_We
Knowledge_presentation_tools
PowerPoint
MindManager
Display Slot
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Direct Instances
ADL_SCORM
AICC
ARIADNE
BSI
CEN_ISSS
DCMI
IEEE_LTSC
IMS
ISO
PROMETEUS
ARIADNE (type=Standardisation_institutions)
Name Labels SameAs DifferentFrom
ARIADNE
Documentation
ARIADNE (Association of Remote Instructional Authoring and Distribution Networks for Europe) is an association of mainly Higher Education Institutions in Europe sharing learning resources. Having begun life as a project funded under the EC's Framework 3 programme, its membership has grown out of the original project partners, and it aims to provide a mechanism for the sharing of learning resources. Its most significant contribution has been the development of a learning content metadata scheme, which was harmonised with the IMS metadata specification, and submitted jointly to IEEE, where it currently awaits ratification.
The ARIADNE Knowledge Pool System is a European-wide distributed repository for learning and teaching resources, and documents relating to learning and teaching. It is sometimes also referred to as the "European Knowledge Pool". Further information about this system, as well as about the authoring and indexing tools that have been developed by ARIADNE can be found on the web site at:
http://www.ariadne-eu.org/2_AS/2.2_tools/main.html
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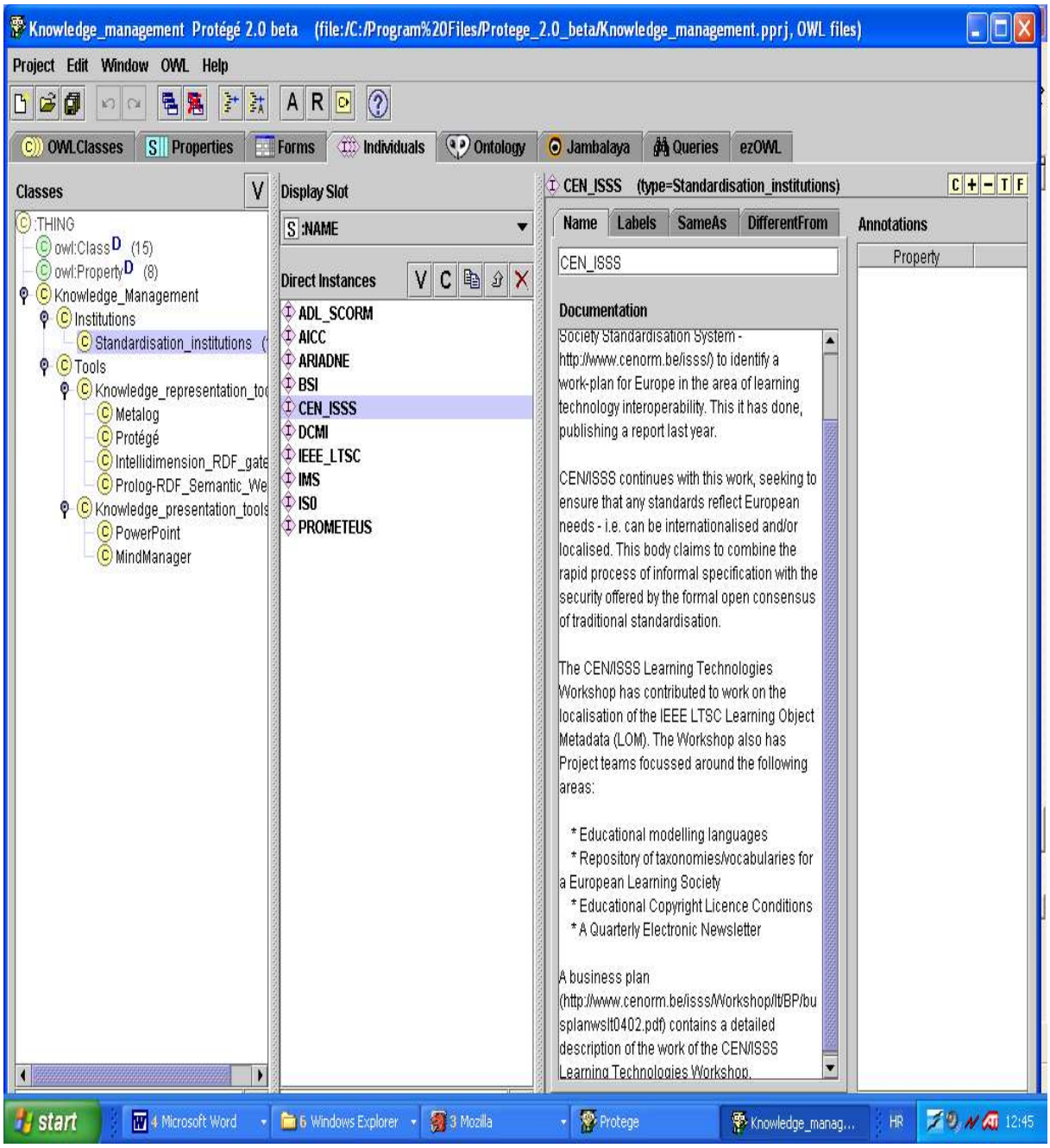
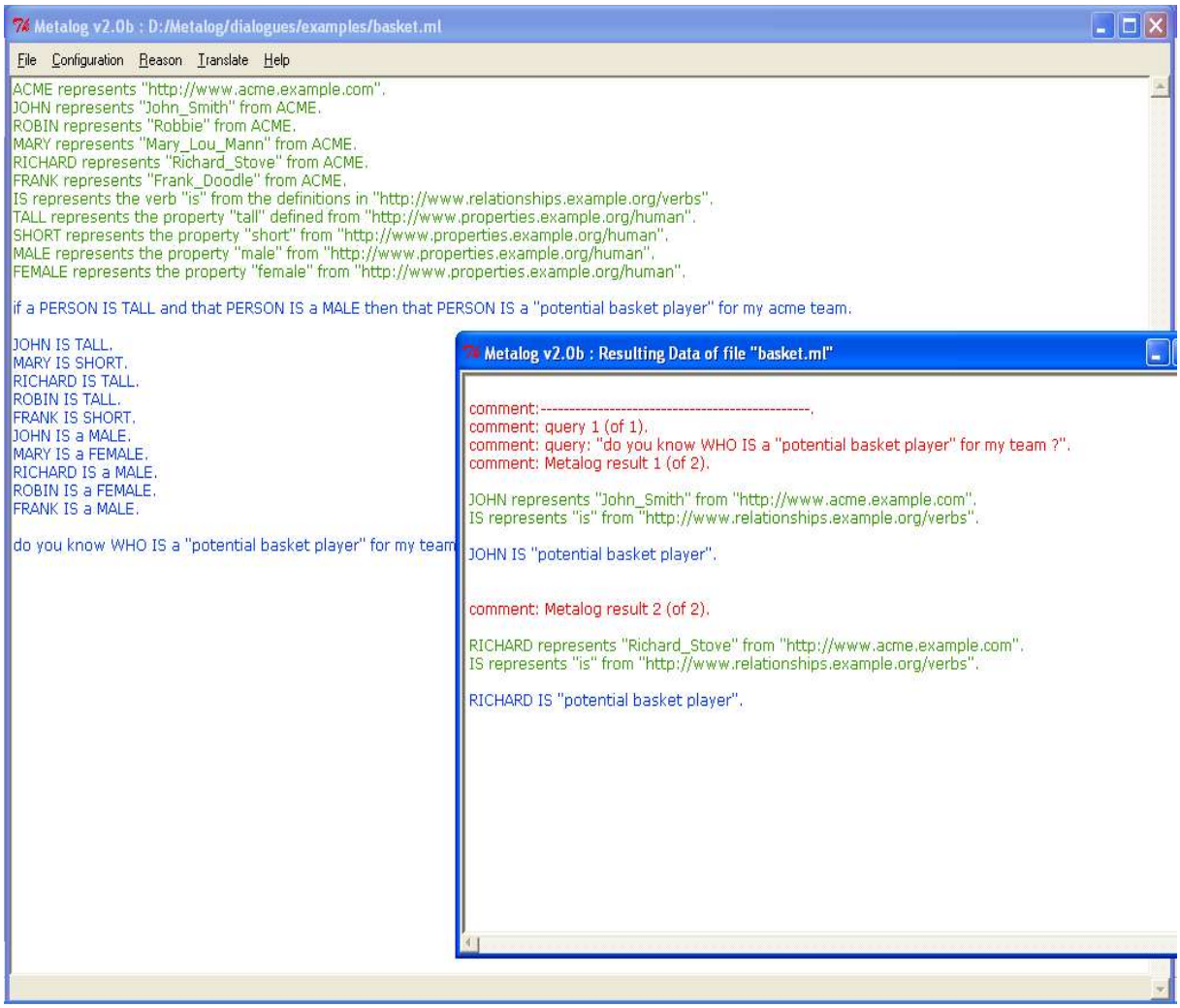
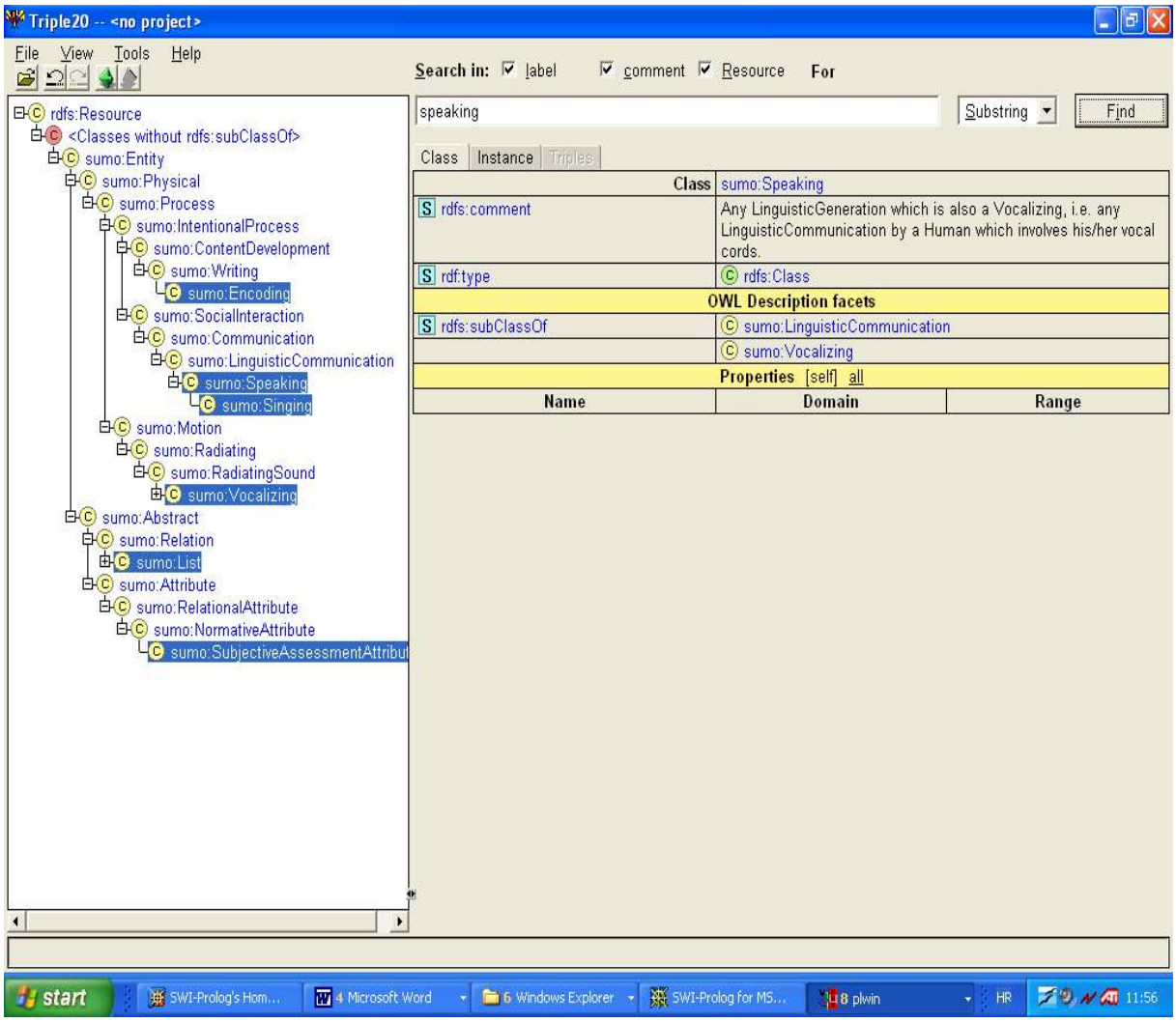


- Metalog v2.0b http://www.w3.org/RDF/Metalog/
Metalog is a next-generation reasoning system for the Semantic Web. Powerful reasoning extension on the one hand, and a very user-friendly interface on the other, constitutes another possible level in the Semantic Web hierarchy – the so-called *pseudo natural language (PNL)* layer. The PNL makes understanding the Semantic Web much easier for everybody, without programming environment having to learn heavy geek-like formalisms.



in programming environment

Prolog's Triple20: RDF/RDFS/OWL vizualization and editing tool and SWI-Prolog/XPCE Semantic Web Library **http://www.swi-prolog.org/**. SWI-Prolog is a **Free Software** Prolog compiler, licensed under the **Lesser GNU Public License**. Together with its graphics toolkit **XPCE**, its development started in 1987 and has been driven by the needs for real-world applications. Being free, small and standard compliant, SWI-Prolog has become very popular for education. After changing to a coherent and open license policy, commercial application is quickly growing. Fast and flexible libraries for parsing **SGML (HTML) and XML**, **RDF**, store and query the RDF **triple model**. A graphical editor for RDF/RDFS and OWL models called **Triple20** is under development.


Triple20 -- <no project>
File View Tools Help
Search in: label comment Resource For
speaking
Substring
Find
Class Instance Triples
rdfs:Resource
<Classes without rdfs:subClassOf>
sumo:Entity
sumo:Physical
sumo:Process
sumo:IntentionalProcess
sumo:ContentDevelopment
sumo:Writing
sumo:Encoding
sumo:SocialInteraction
sumo:Communication
sumo:LinguisticCommunication
sumo:Speaking
sumo:Singing
sumo:Motion
sumo:Radiating
sumo:RadiatingSound
sumo:Vocalizing
sumo:Abstract
sumo:Relation
sumo:List
sumo:Attribute
sumo:RelationalAttribute
sumo:NormativeAttribute
sumo:SubjectiveAssessmentAttribut
Class sumo:Speaking
rdfs:comment
Any LinguisticGeneration which is also a Vocalizing, i.e. any LinguisticCommunication by a Human which involves his/her vocal cords.
rdf:type
rdfs:Class
OWL Description facets
rdfs:subClassOf
sumo:LinguisticCommunication
sumo:Vocalizing
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Range
start
SWI-Prolog's Hom...
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SWI-Prolog for MS...
8 plwin
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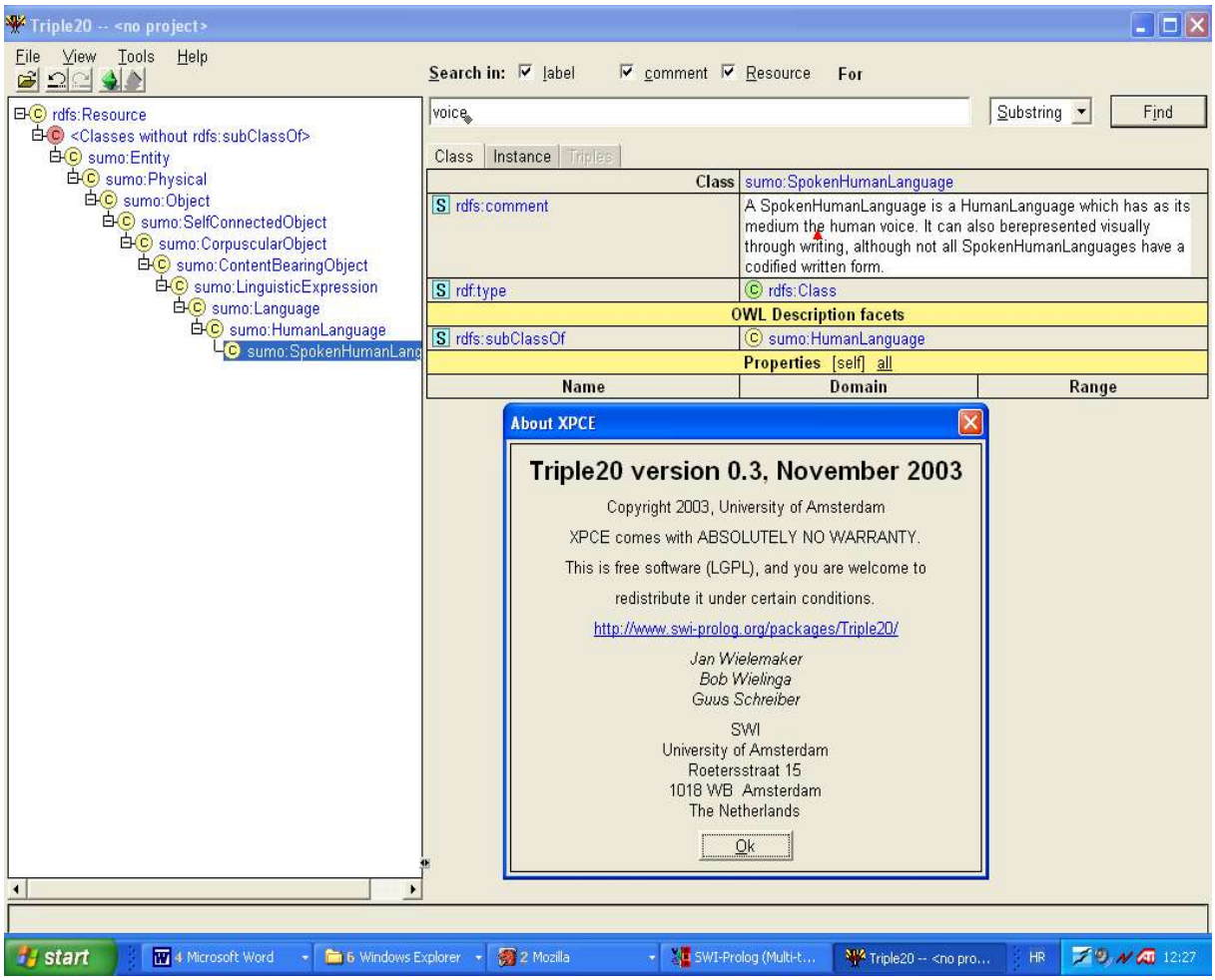


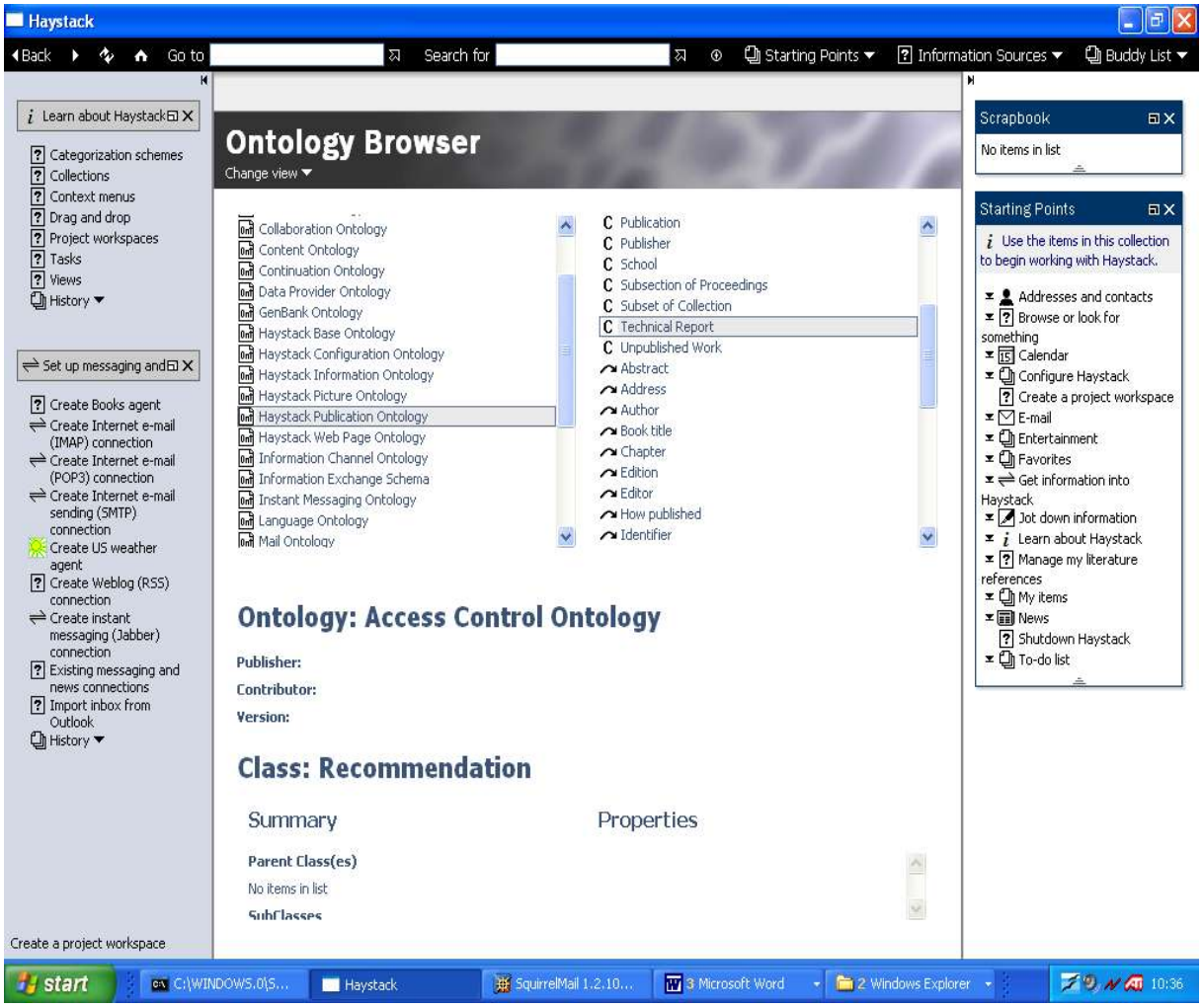
- ***RAP - RDF API for PHP V0.7.1*, http://www.wiwiss.fu-berlin.de/suhl/bizer/rdfapi/** RDF API for PHP is a software package for parsing, searching, manipulating, and serializing RDF models.

- *Jena,* http://jena.sourceforge.net/ Jena is a Java framework for building Semantic Web applications. It provides a programmatic environment for RDF, RDFS and OWL, including a rule-based inference engine. Jena is an open source and has grown out of work with the HP Labs Semantic Web Programme. The Jena Framework includes A RDF API, Reading and writing RDF in RDF/XML, N3 and N-Triples, An OWL API, In-memory and persistent storage, RDQL – a query language for RDF

In application environment

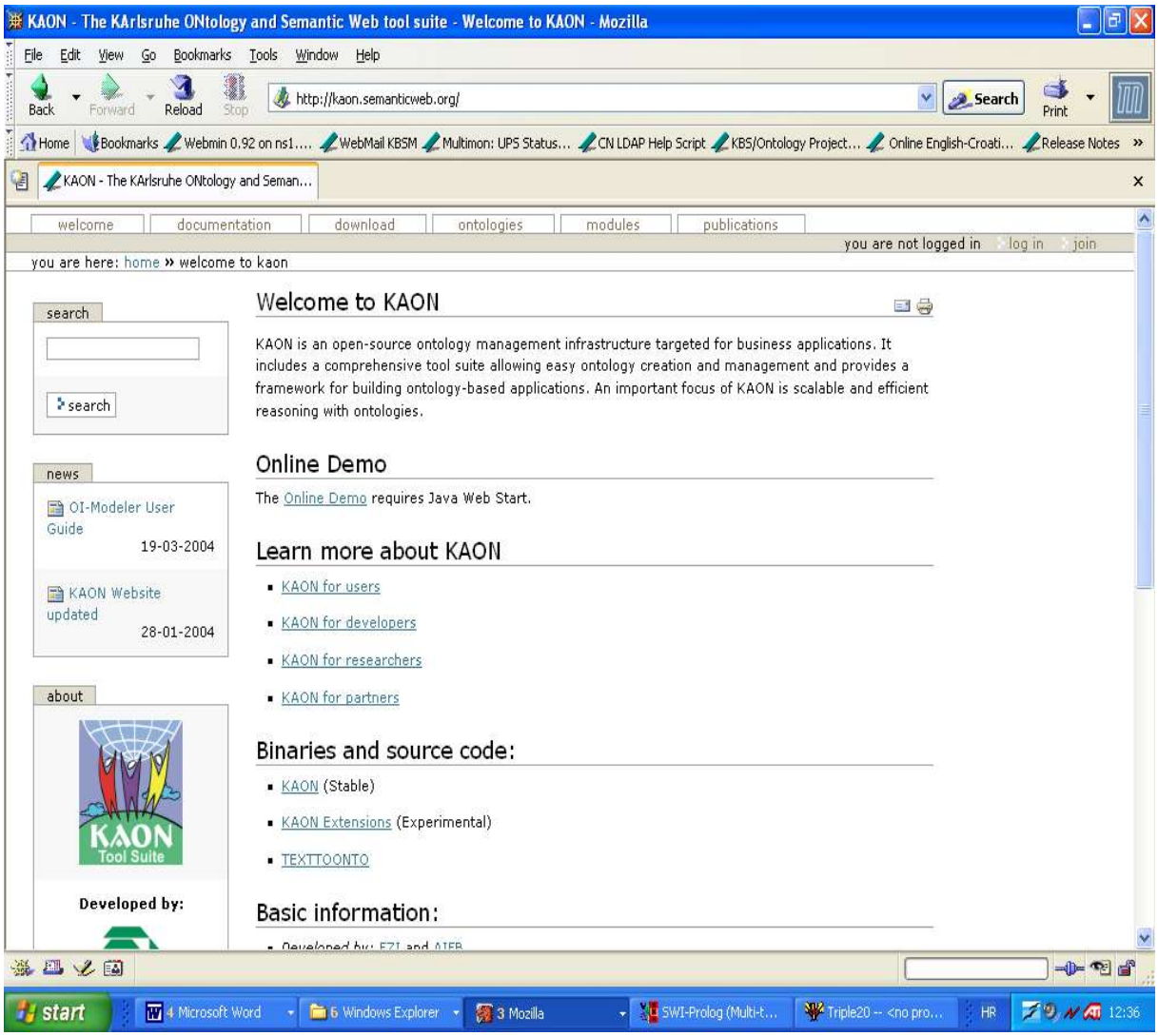
http://haystack.lcs.mit.edu/ Laboratory for Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology, Cambridge, Haystack project provides the software mechanisms necessary for a user to index relevant information on their personal computer (or workspace). The intent of this system was to provide a means by which a user could easily and intelligently access information stored on their local system as well as remote servers. Through Haystack a user can also annotate archived data with their own descriptions and comments.

The work done on Haystac was the result of the effort of a number of people at the LCS and AI labs.



in server (and client) environment

- KAON http://km.aifb.uni-karlsruhe.de/kaon2/frontpage http://km.aifb.uni-karlsruhe.de/kaon2/modules KAON is an open-source ontology management infrastructure targeted for business applications. It includes a comprehensive tool suite allowing easy ontology creation and management and provides a framework for building ontology-based applications. An important focus of KAON is scalable and efficient reasoning with ontologies.


KAON - The KArlsruhe ONtology and Semantic Web tool suite - Welcome to KAON - Mozilla
File Edit View Go Bookmarks Tools Window Help
Back Forward Reload Stop
http://kaon.semanticweb.org/
Search
Print
Home Bookmarks Webmin 0.92 on ns1.... WebMail KBSM Multimon: UPS Status... CN LDAP Help Script KBS/Ontology Project... Online English-Croati... Release Notes
KAON - The KArlsruhe ONtology and Seman...
welcome documentation download ontologies modules publications
you are not logged in log in join
you are here: home » welcome to kaon
search
search
news
OI-Modeler User Guide
19-03-2004
KAON Website updated
28-01-2004
about
KAON Tool Suite
Developed by:
Welcome to KAON
KAON is an open-source ontology management infrastructure targeted for business applications. It includes a comprehensive tool suite allowing easy ontology creation and management and provides a framework for building ontology-based applications. An important focus of KAON is scalable and efficient reasoning with ontologies.
Online Demo
The Online Demo requires Java Web Start.
Learn more about KAON
KAON for users
KAON for developers
KAON for researchers
KAON for partners
Binaries and source code:
KAON (Stable)
KAON Extensions (Experimental)
TEXTTOONTO
Basic information:
start
4 Microsoft Word
6 Windows Explorer
3 Mozilla
SWI-Prolog (Multi-t...
Triple20 -- <no pro...
HR
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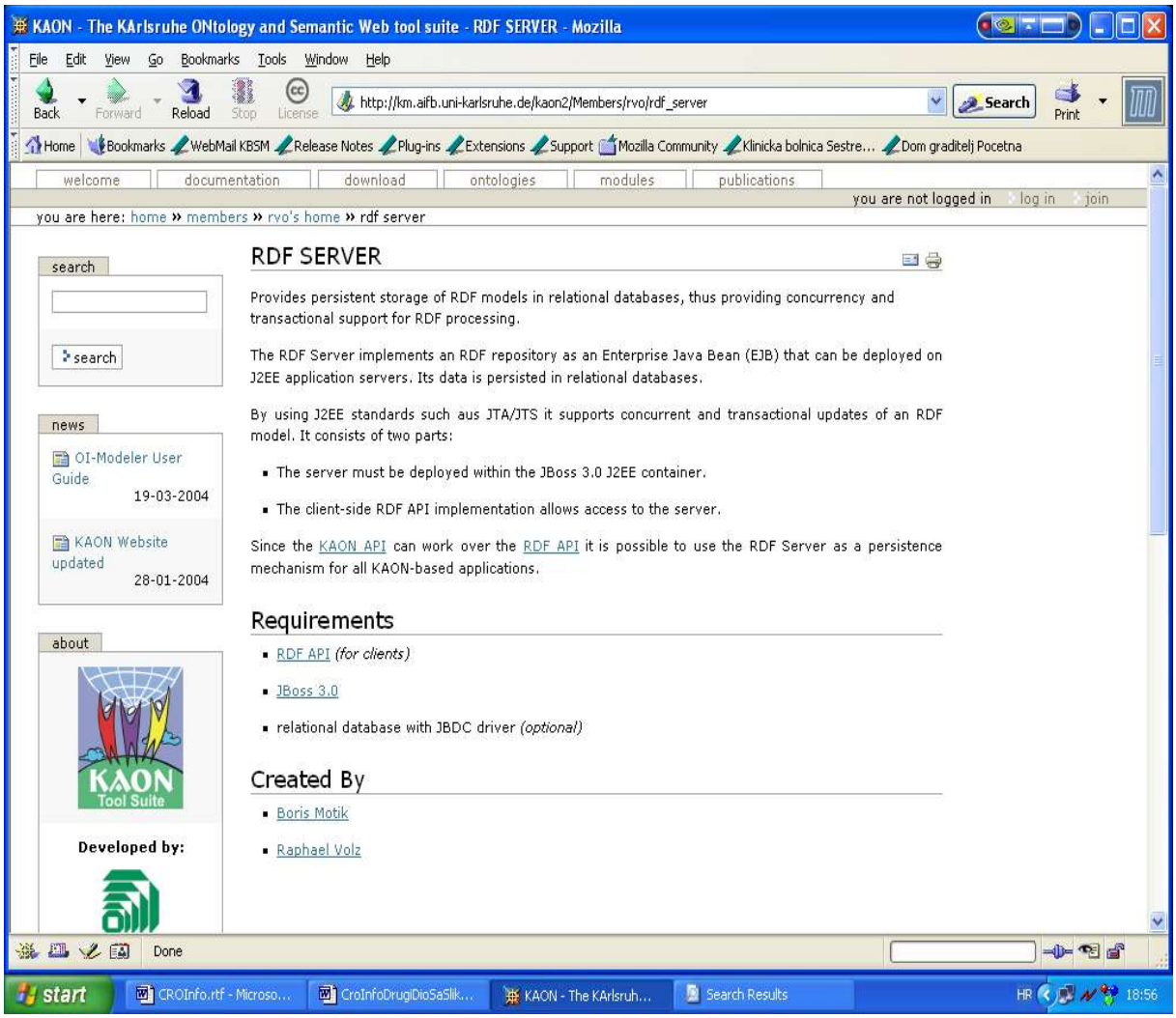
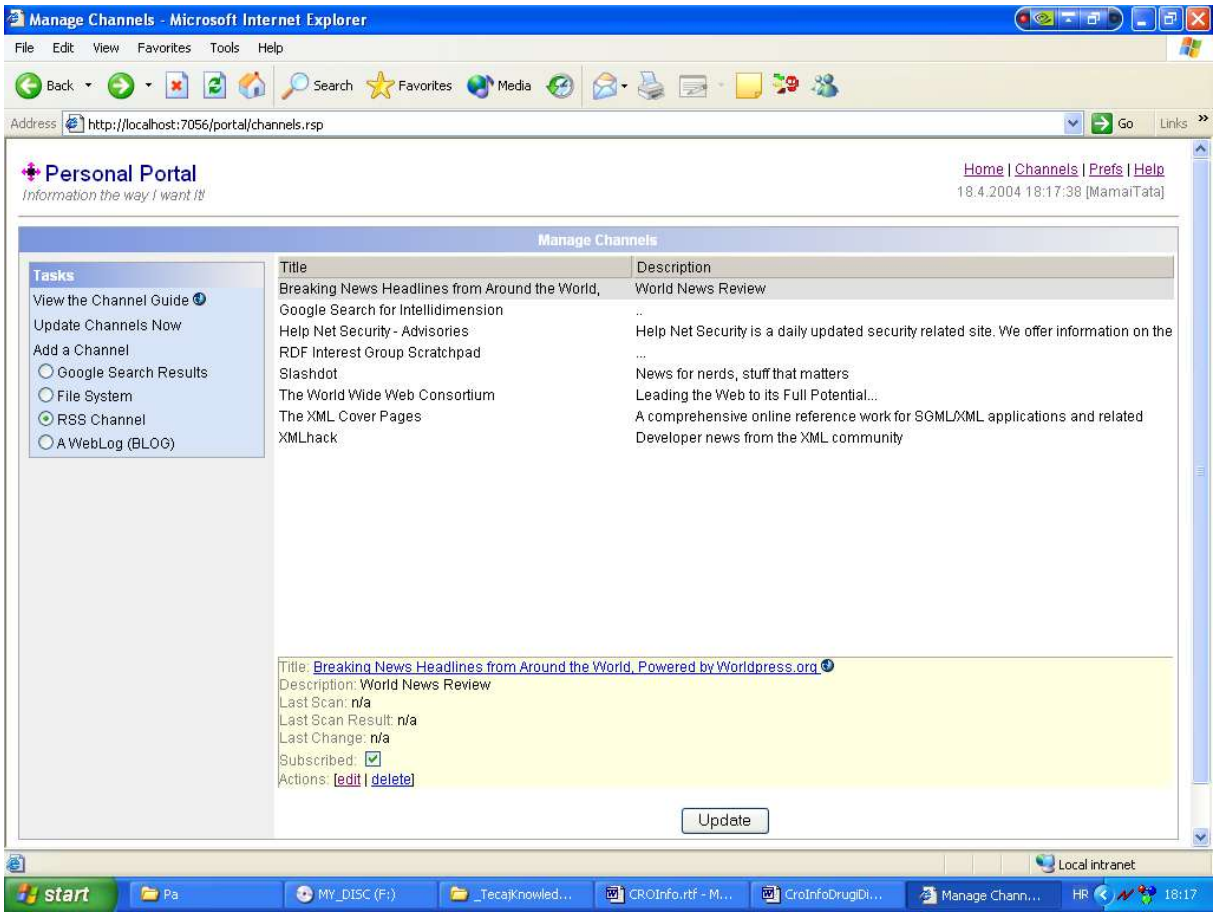


- Intellidimension RDF Gateway v 2.0.0 http://www.intellidimension.com/pages/rdfgateway. This package highlights the power of RDF Gateway to dynamically integrate disparate information based on semantics (*semantic integration*). Semantic integration eliminates the need for all systems to share a common schema in order to exchange information. In a highly distributed world, it is common practice for various organizations to develop and implement systems each using a different schema to describe their information. RDF Gateway can map queries, data sources, and results between schemas in such a way that to each individual system it appears that all other systems share its schema.


Manage Channels - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites Media
Address http://localhost:7056/portal/channels.rsp
Go Links
Personal Portal
Information the way I want it!
Home | Channels | Prefs | Help
18.4.2004 18:17:38 [MamaiTata]
Manage Channels
Tasks
View the Channel Guide
Update Channels Now
Add a Channel
Google Search Results
File System
RSS Channel
A WebLog (BLOG)
Title
Description
Breaking News Headlines from Around the World,
World News Review
Google Search for Intellidimension
..
Help Net Security - Advisories
Help Net Security is a daily updated security related site. We offer information on the
RDF Interest Group Scratchpad
...
Slashdot
News for nerds, stuff that matters
The World Wide Web Consortium
Leading the Web to its Full Potential...
The XML Cover Pages
A comprehensive online reference work for SGML/XML applications and related
XMLhack
Developer news from the XML community
Title: Breaking News Headlines from Around the World, Powered by Worldpress.org
Description: World News Review
Last Scan: n/a
Last Scan Result: n/a
Last Change: n/a
Subscribed:
Actions: [edit | delete]
Update
Local intranet
start
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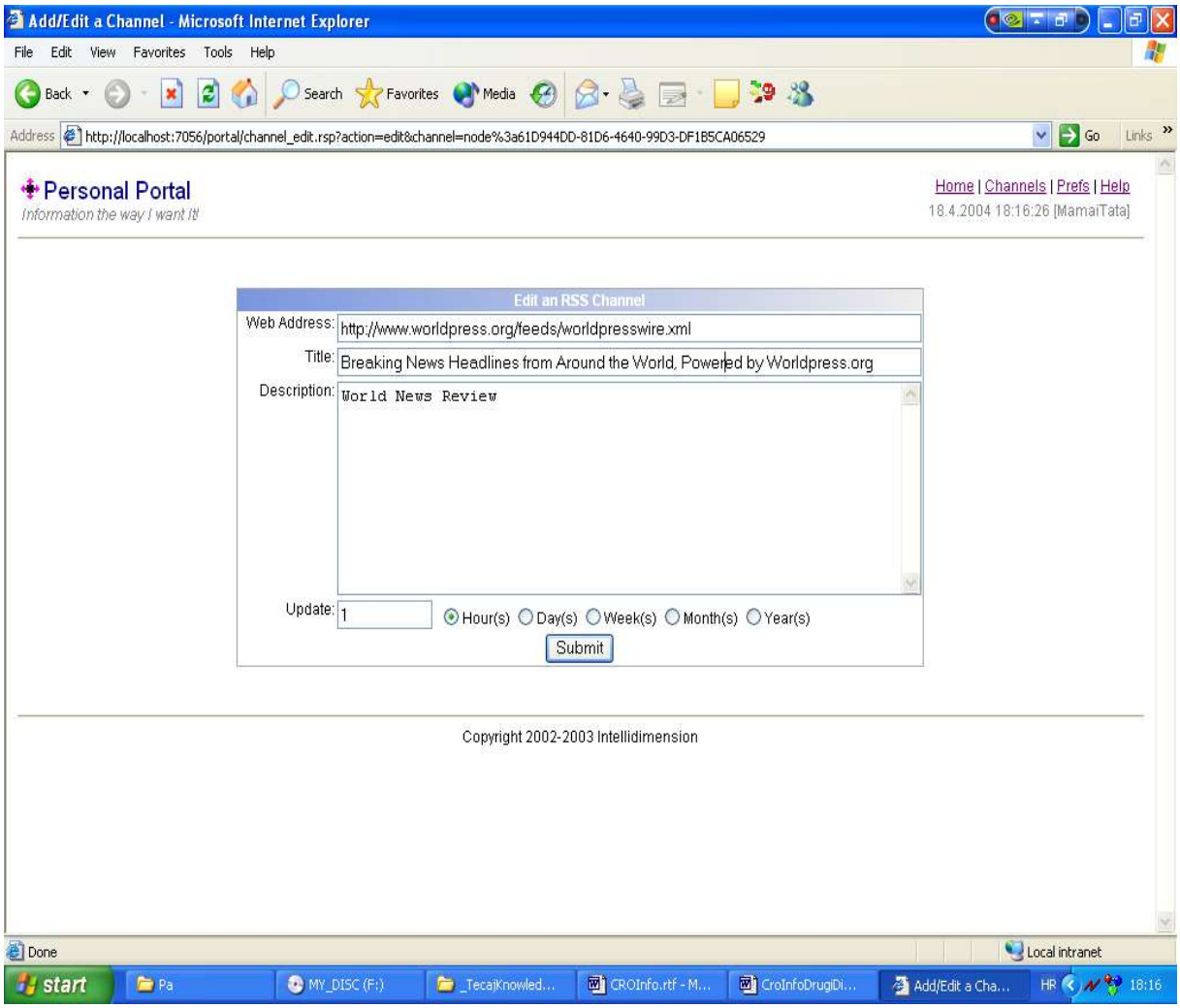

References

1. Dave Beckett's Resource Description Framework (RDF) Resource Guide **http://www.ilrt.bris.ac.uk/discovery/rdf/resources/**

2. Žarnić, B. Spoznaja, predznanje i stjecanje znanja (Knowledge, prior-konowledge and knowledge acquisition) *Obrazovanje za informacijsko - III. dio.* J. Božićević (ed.). pp.15-22. Akademija tehničkih znanosti Hrvatske/ Hrvatsko društvo za sustave. Zagreb. 1999. http://www.vusst.hr/~berislav/phil/spoznaja.doc

3. *Rešetar, Z. "Knowledge Production or Why Some Society and Some Institution Want to Learn"* http://www.kbsm.hr/PredstavljanjeZnanja/03SazeciPredstavljanjeZnanja.htm in: Predstavljanje znanja u jedinici vremena", Mini simpozij Makarska - KB "Sestre milosrdnice", 2002.

4. A. Dragičević, D. Dragičević Doba Kiberkomunizma - visoke tehnologije i društvene promjene, Golden marketing, Zagreb 2003.

5. Daconta, Michael C, Obrst, Leo. J, Smith, Kevin T: The Semantic Web: A Guide to the Future of XML, Web Services, and Knowledge Management, Wiley Publishing, Inc., Indianapolis, Indiana 2003.