



XD

development status and ongoing work

Enrico Daga

STLab (CNR) - enrico.daga@amministrazione.cnr.it



- eXtreme Design
- Preliminary versions
- XD Plugin
- Integration with ODP, Cupboard, Watson ...?
- Deadlines
- What's next



Pattern based design:

- definition of **requirements** for the working ontology
- **selection** and import of ontology patterns related to the requirements
- **specialization** of patterns in domain-related entities and **composition** of patterns' entities
- ontology (new pattern?) **annotation**
- ontology (new pattern?) **publishing** on the web



- “Milton Keynes” version (0.0.1)
 - A browser for ODPs
 - A wizard for specializing patterns
 - Support for: disjointness, domain-range, inverse properties
 - A dialog for pattern annotation
 - Tested on MAC-OS-X and Linux platforms (GTK)
- “FAO training” version (0.0.2)
 - Tested on Windows XP platform

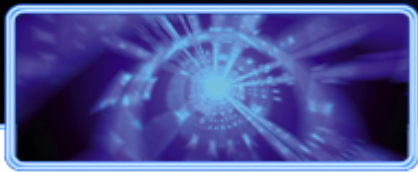


XD Plugin

overview on ongoing work

Plugin components:

- ODP Repository Browser
- XD Assistant (*new*)
- Wizard
- GUI (*new*)
- Annotation window
- Publish window (*new*)



XD Plugin: ODP Repository Browser selection

- Collects repositories of patterns, user can browse them and see the ontology annotations in a related view.
- User can:
 - download ODPs to a Project/Ontology
 - clone it locally or *owl:import* it in a working ontology
 - select a pattern and start the wizard
 - refresh repositories
- ODP Repositories:
 - Submissions
 - Catalogue
 - Beautiful ontologies
- User-defined repositories
 - *Repositories can be added easily exposing an ontology implementing the ODP repository vocabulary (based on C-ODO)*



XD Plugin: XD Assistant

selection, good practices

A view that expose the result of an analyse of the working ontology based on **rules** formalized from good practices.

It shows:

- Suggestions

- proposals of additional axioms inferred from patterns' entity usage

- Warnings

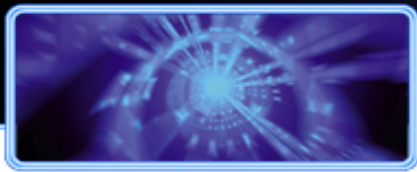
- missing labels, comments, too much entities, few relations ...

- Errors

- entities without any relation ...

- Pattern selection

Extendibility: the XD Assistant will be extensible to easily support new rules



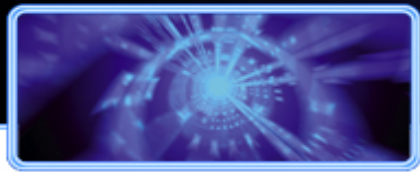
XD Plugin: Wizard

specialization, composition, instantiation

- The wizard approach guides the user in a structured process to build/extend an ontology using patterns
- User can do it in three modalities: *create*, *create & import*, *merge*
 - 1. definition of the working project/ontology and of the patterns involved
 - 2. Input new axioms
 - Specialization: create new *sub... of* statement
 - Composition: select subject, select relation, select object;
 - Instantiation: create entities for each class/property of a pattern, adding labels and comment for new individual (*interaction similar to specialization*)



- 4. Consequences
 - User check the statements that are 'true' from a list
 - Those statements are grouped by type: *cannot be a, domain/range, necessary conditions, sufficient conditions ...*
- 5. Overview
- *After finished, propose chain with the 'Annotation dialog'.*



XD Plugin: GUI

- The needs of a GUI is twofold:
 - A graphical tool is a more flexible and granular approach for work with patterns (instead of using the wizard, that is a more structured/rigid process)
 - A graphical representation is a way to express requirements
- The GUI will let the user to create simple graphical objects (circles and arcs) independently from the OWL language
- The user can then **bind** those 'anonymous' entities with patterns entities, and so create OWL statements indirectly.
 - each pattern of the ontology as a circle/container
 - When the user draws an arc between two entities a list of possible relations is shown and chosen by the user
 - Each Class, Property as little circles inside each Pattern.



XD Plugin: Annotation window annotation

- Supported vocabularies
 - CP annotation schema (supported)
- Support for user-defined vocabularies (*in Preferences*)



XD Plugin: Publish window

publish

- User is registered to ODP portal
 - It will be the possibility to ask for an account (link to the wiki...)
- User name and password can be set on the Preferences
- Possibility to add a pattern proposal or to update it
- Possibility to have a *shared ontology space* for exposing ontologies on the web.

- What ODP repository is going to become respect to XD integration:
 - Official repository:
 - Submissions, Catalogue, Beautiful ontologies
 - Unofficial repository:
 - Shared space where all ODP registered users can publish ontologies on the web through the XD plugin
 - What Cupboard can do respect to those requirements?
 - How to integrate it with the ODP repository and wiki (rating system)?
- XD Assistant will select patterns respect to requirement specification (and GUI objects labels and notes):
 - how to use Watson to automatically build queries for a first selection of candidates patterns?



Deadlines

version 1.0 - August, 31

- Version 1.0 (August 31)
 - Wizard (will guide the user in all operations)
 - GUI
 - XD Assistant (base rules)
 - Design operations: specialization, (some) composition, annotation
 - NeOn toolkit integration
 - Tests also on Windows Vista and KDE-based Linux platforms



- Version 2.0 (NeOn meeting, 31 October)
 - Wizard/GUI all design operations
 - XD Assistant (more rules)
 - Plugin implementation documentation
 - user manual (also in eclipse CheatSheets)



“XD/ODP integration ...” *Ad-hoc meeting at 17.30-18.15*

- Integration between the ODP and Cupboard (repository, rating system)
- Integration between XD and Watson for pattern selection
- Integration between XD and ODP for publishing
- Integration between XD and other neon-toolkit plugins
 - Modularization for pattern extraction
 - others?
- *All partners are invited to discuss integrations with other neon-toolkit plugins*



Thank you