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

Plugin components:

- ODP Repository Browser

- XD Assistant *(new)*

- Wizard

- GUI *(new)*

- Annotation window

- Publish window *(new)*

- 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 expo*
    s

ing an ontology implementing the ODP repository vocabulary (based on C-ODO)

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

- 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'.*

- 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

- Supported vocabularies

  – CP annotation schema (supported)

- Support for user-defined vocabularies *(in Preferences)*

- **User is registered to ODP portal**
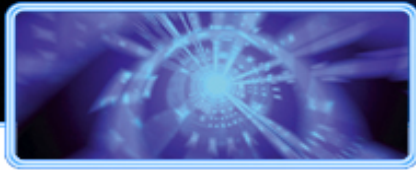
  – It will be the possibility to ask for an account (link to the wiki...)

- **User name and password can be set on the Preferences**

- **Possibility to add a pattern proposal or to update it**

- **Possibil
  it
  y
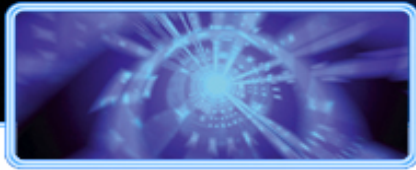 to have a *shared ontology space* for exposing ontologies on the web.**

- **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?

- 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
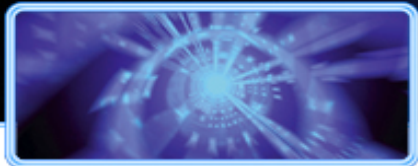
- Version 2.0 (NeOn meeting, 31 October)

  - Wizard/GUI all design operations

  - XD Assistant (more rules)

  - Plugin implementation documentation

  - user manual (also in eclipse CheatSheets)

■

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*
p
a
rtners are invited to discuss integrations with other neon-toolkit plugins

Thank you