



T2.1 Collaborative Ontology Design framework

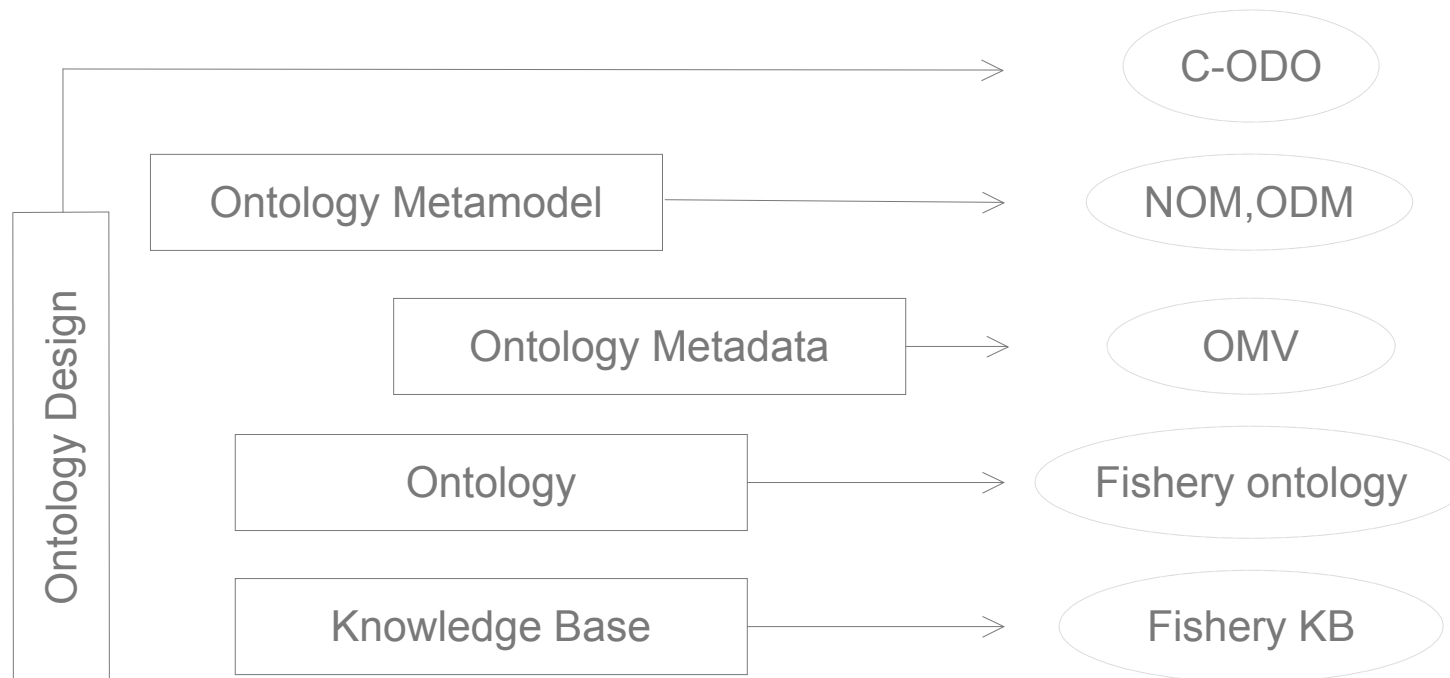
- Deliverable 2.1.1 (M10) “Collaborative aspects for networked ontologies”
 - reviewed, final version due February 15th
- C-ODO (Collaborative Ontology Design Ontology)
 - A vocabulary for ontology elements, projects, workflows, argumentation, functionalities, design patterns, design choices
 - Allows modelling of NeOn methodological guidelines → WP5, as well as of functionalities to be implemented in tools that support design
 - Deployed into wikis to create light-weight ontology-driven collaborative environments → T2.3
 - E.g. applied to the Argumentation metamodel → T2.3



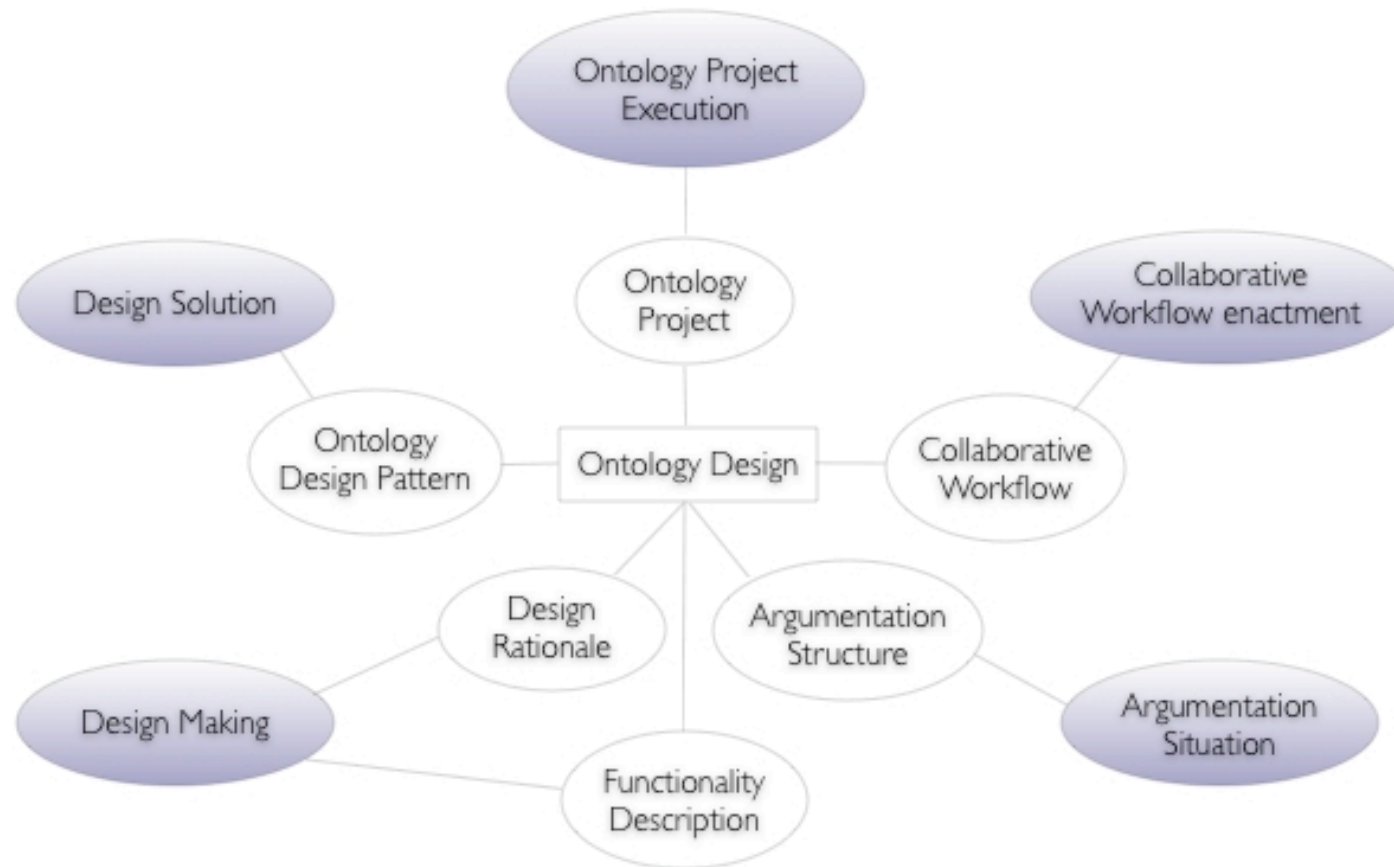
Additional data about C-ODO

- Available at <http://www.loa-cnr.it/ontologies/OD/OntologyDesign.owl>
- Currently C-ODO contains 127 classes, 58 properties
- Alignment to Ontology Metadata Vocabulary (OMV), Networked Ontology Model (NOM), OMG's Ontology Definition Metamodel (ODM)
- Reuses ontology design patterns (e.g. Descriptions and Situations reification vocabulary, Identifiers, Resources and Entities web ontology)

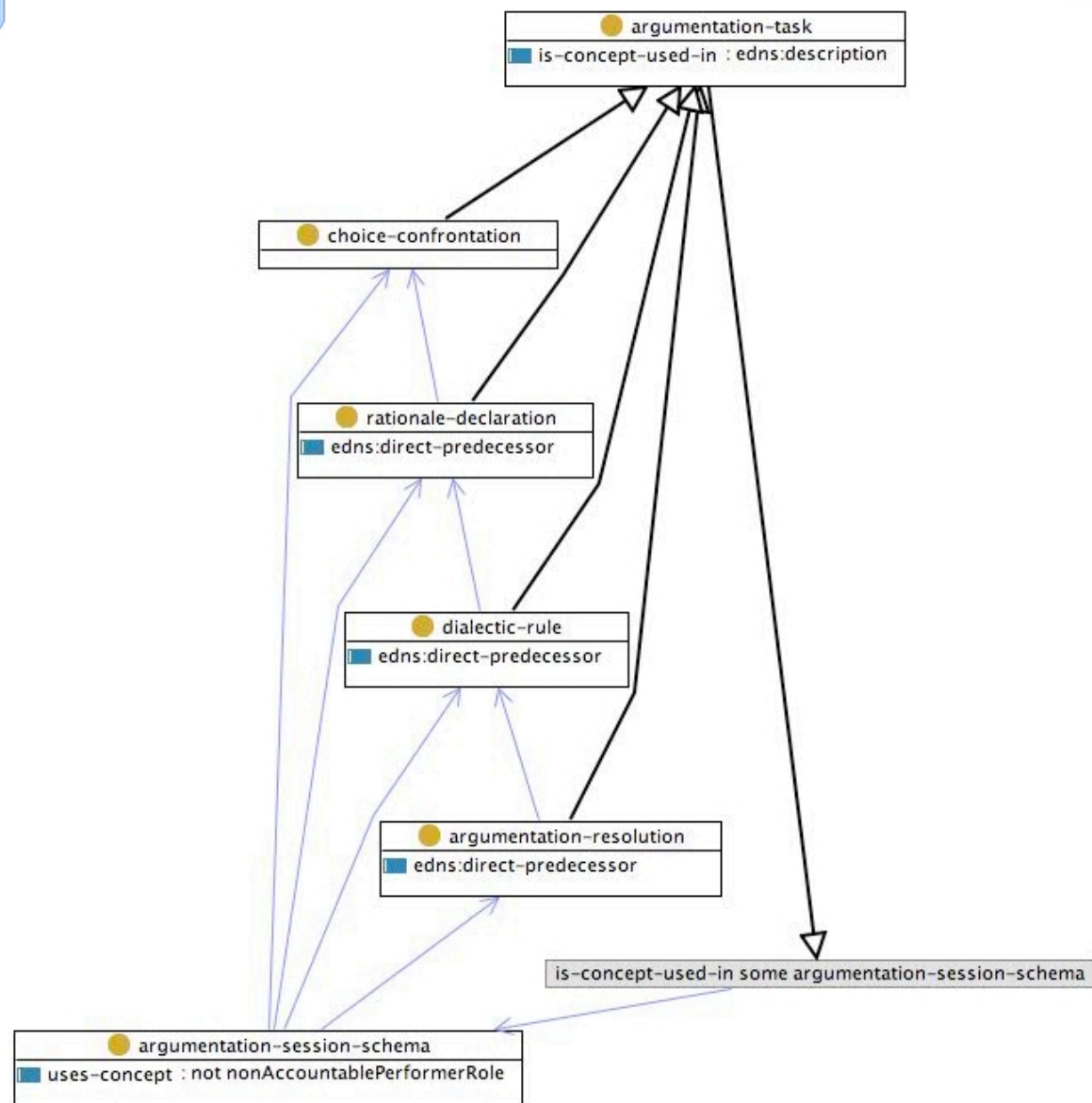
C-ODO-related stack



C-ODO modular architecture



Argumentation session from C-ODO





T2.3 Collaborative Ontology Design Support

- Deliverable 2.3.1 (M20) “Collaborative Ontology Design Support”
- C-ODO modelling
- Early, lightweight support, based on ‘Semantic Web Factories’ (ontology-driven webs)
 - ‘Native semantics’ paradigm: (web) content and knowledge are synchronized, (meta-)modelling is aligned to web development → T2.3
- Semantic wikis
 - Semantic Web Factory for ontology design through WikiFactory tool → T2.3
- Provenance model
- Reasoning on argumentation
- Evolution of this task
 - Tackling alternative workflows, bottlenecks from generic users ↔ WP4
 - Adding social network analysis into the loop



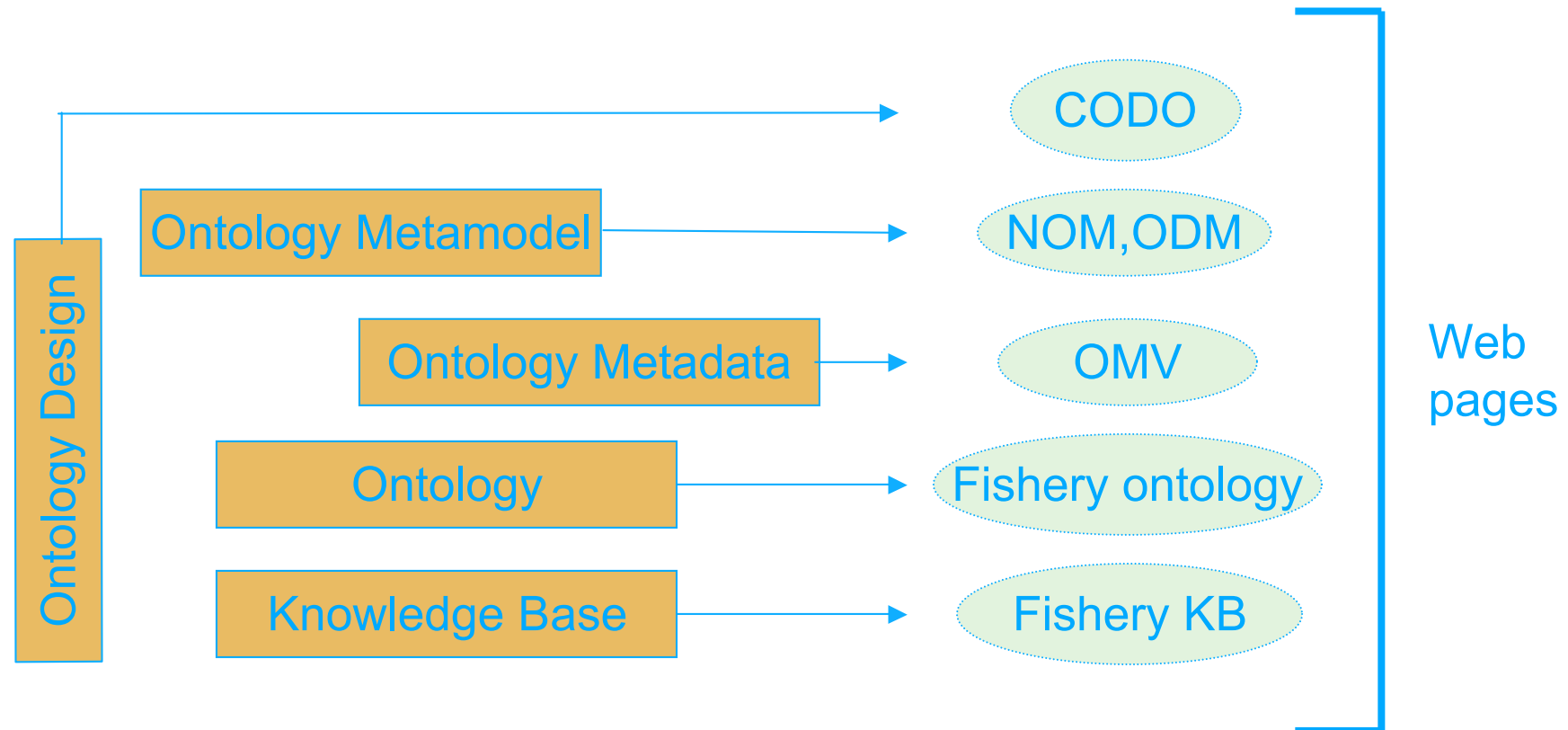
Aspects of collaborative design support (1/2)

- Collaborative editing tool, extended to collaborative ontology design (Ontoprise)
- WikiFactory, a tool for Semantic Web Factories applied to collaborative ontology design (CNR)
- Wiki-based argumentation tool, based on DILIGENT (UKO-LD)
- Wiki deployment as a lightweight example of collaboration support
- Other possible collaborative environments: semantic chat, email, blogs



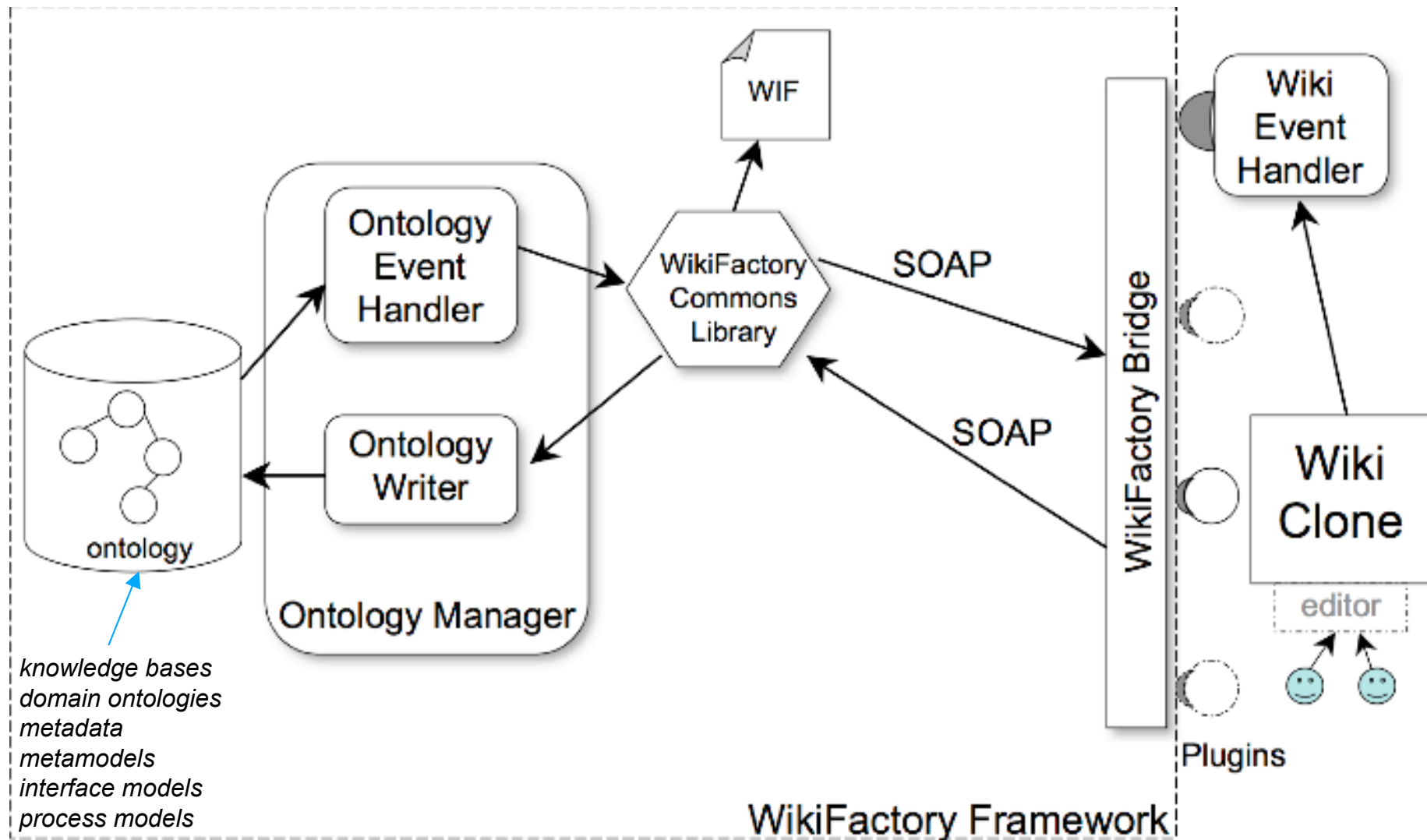
Aspects of collaborative design support (2/2)

- NeOn toolkit support is also planned (Eclipse realization of C-ODO)
- Lightweight support for ontology design will be integrated as a loosely coupled component
- Lightweight support is not alternative to NeOn toolkit support, users will come in and out of the toolkit according to need
- Lightweight support includes hiding the metamodel from generic users (native semantics paradigm allows that)



Reused ontology design patterns:
“Descriptions and Situations” + “Identity, Resources and Entities”

WikiFactory architecture





WikiFactory deploy module

WikiFactory - Deploy Module

Ontology settings

Domain ontology file
rs/macbook/Desktop/Ontologies/NeOn/NeOnTeam.owl ...

Domain Namespace
http://www.neon-project.org/ontologies/NeOnTeam.owl

Target settings

Target wiki SemanticMediaWiki ☒ Local ☐ Remote

Wiki target URL: http://www.neon-project.org/wiki

Deploy Exit



A page for a class, with suggestions for appropriate relations

http://localhost/testwiki/index.php/Category:CSUniversityStudent

Category:UniversityStudent - Tes... MicheleBordi - TestWiki Category:CSUniversityStud...

category discussion edit history protect delete watch refresh

Category:CSUniversityStudent

category of the Computer Science students [\[edit\]](#)

Suggested Relations

[HasSupervisorAssistant](#) [Add Restriction](#)

[EnrolledIn](#) [Add Restriction](#)

[HasSupervisorProfessor](#) [Add Restriction](#)

Subcategories

There is 1 subcategory to this category.

C

- [CSUniversityStudent](#)

Articles in category "CSUniversityStudent"

There is 1 article in this category.

M

- [MicheleBordi](#)

Categories: [CSUniversityStudent](#) | [UniversityStudent](#) | [Student](#)

Set \$wgLogo to the URL path to your own logo image.

navigation

- [Main Page](#)
- [Community portal](#)
- [Current events](#)
- [Recent changes](#)
- [Random page](#)
- [Help](#)
- [Donations](#)

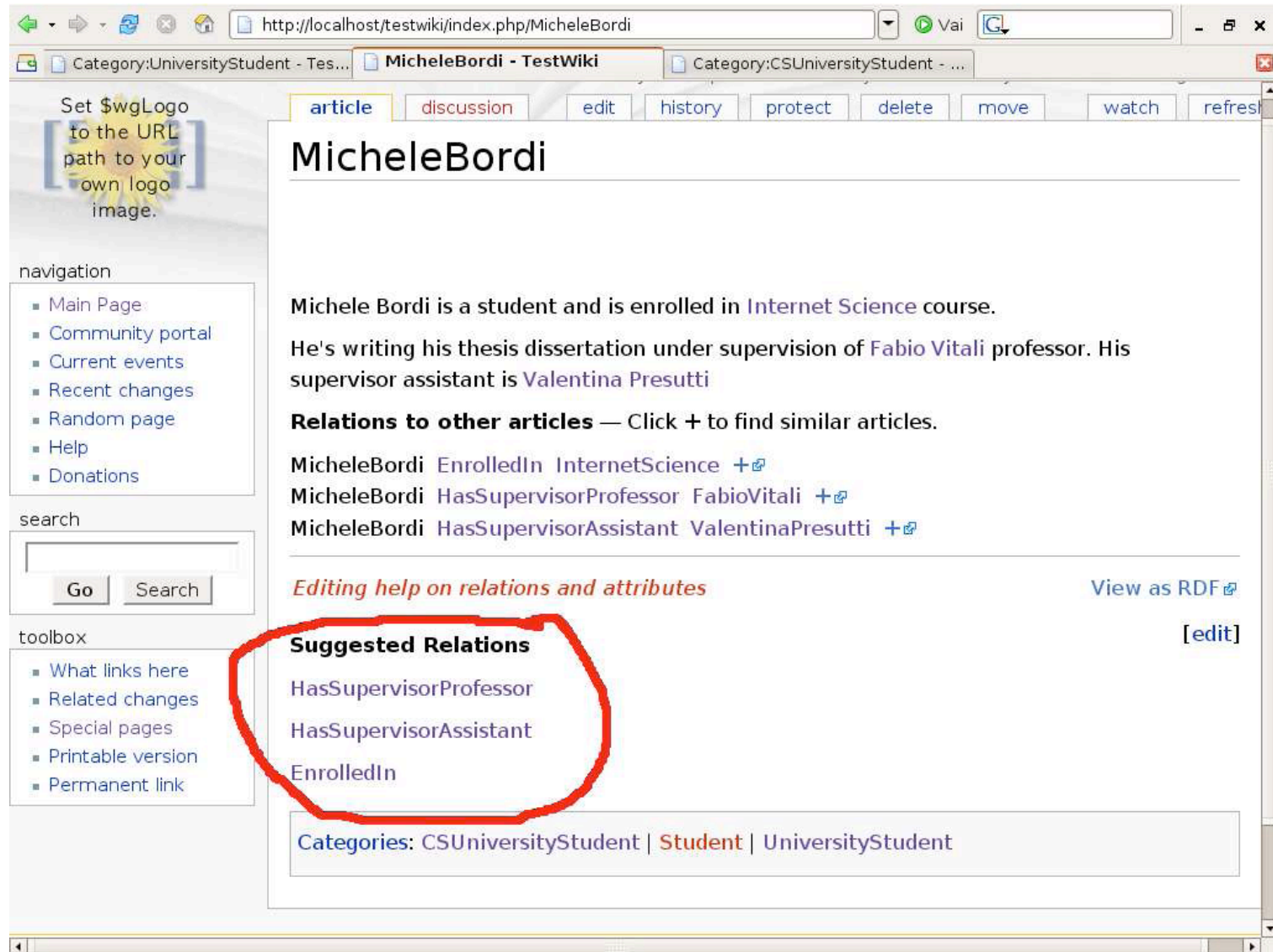
search

[Go](#) [Search](#)

toolbox

- [What links here](#)
- [Related changes](#)
- [Special pages](#)
- [Printable version](#)
- [Permanent link](#)

A page for an individual



The screenshot shows a web browser window displaying a TestWiki page for an individual named MicheleBordi. The browser's address bar shows the URL `http://localhost/testwiki/index.php/MicheleBordi`. The page has a navigation bar with tabs for `article`, `discussion`, `edit`, `history`, `protect`, `delete`, `move`, `watch`, and `refresh`. The main content area displays the name **MicheleBordi** and a brief biography: "Michele Bordi is a student and is enrolled in Internet Science course. He's writing his thesis dissertation under supervision of Fabio Vitali professor. His supervisor assistant is Valentina Presutti". Below this, there is a section titled "Relations to other articles" with a list of relationships: "MicheleBordi EnrolledIn InternetScience +", "MicheleBordi HasSupervisorProfessor FabioVitali +", and "MicheleBordi HasSupervisorAssistant ValentinaPresutti +". A red circle highlights the "Suggested Relations" section, which lists "HasSupervisorProfessor", "HasSupervisorAssistant", and "EnrolledIn". The page also includes a sidebar with navigation links (Main Page, Community portal, Current events, Recent changes, Random page, Help, Donations), a search box, and a toolbox with links (What links here, Related changes, Special pages, Printable version, Permanent link). The footer of the page shows the categories: "Categories: CSUniversityStudent | Student | UniversityStudent".

Set \$wgLogo to the URL path to your own logo image.

navigation

- Main Page
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- Donations

search

Go Search

toolbox

- What links here
- Related changes
- Special pages
- Printable version
- Permanent link

MicheleBordi

Michele Bordi is a student and is enrolled in Internet Science course. He's writing his thesis dissertation under supervision of Fabio Vitali professor. His supervisor assistant is Valentina Presutti

Relations to other articles — Click + to find similar articles.

MicheleBordi EnrolledIn InternetScience +

MicheleBordi HasSupervisorProfessor FabioVitali +

MicheleBordi HasSupervisorAssistant ValentinaPresutti +

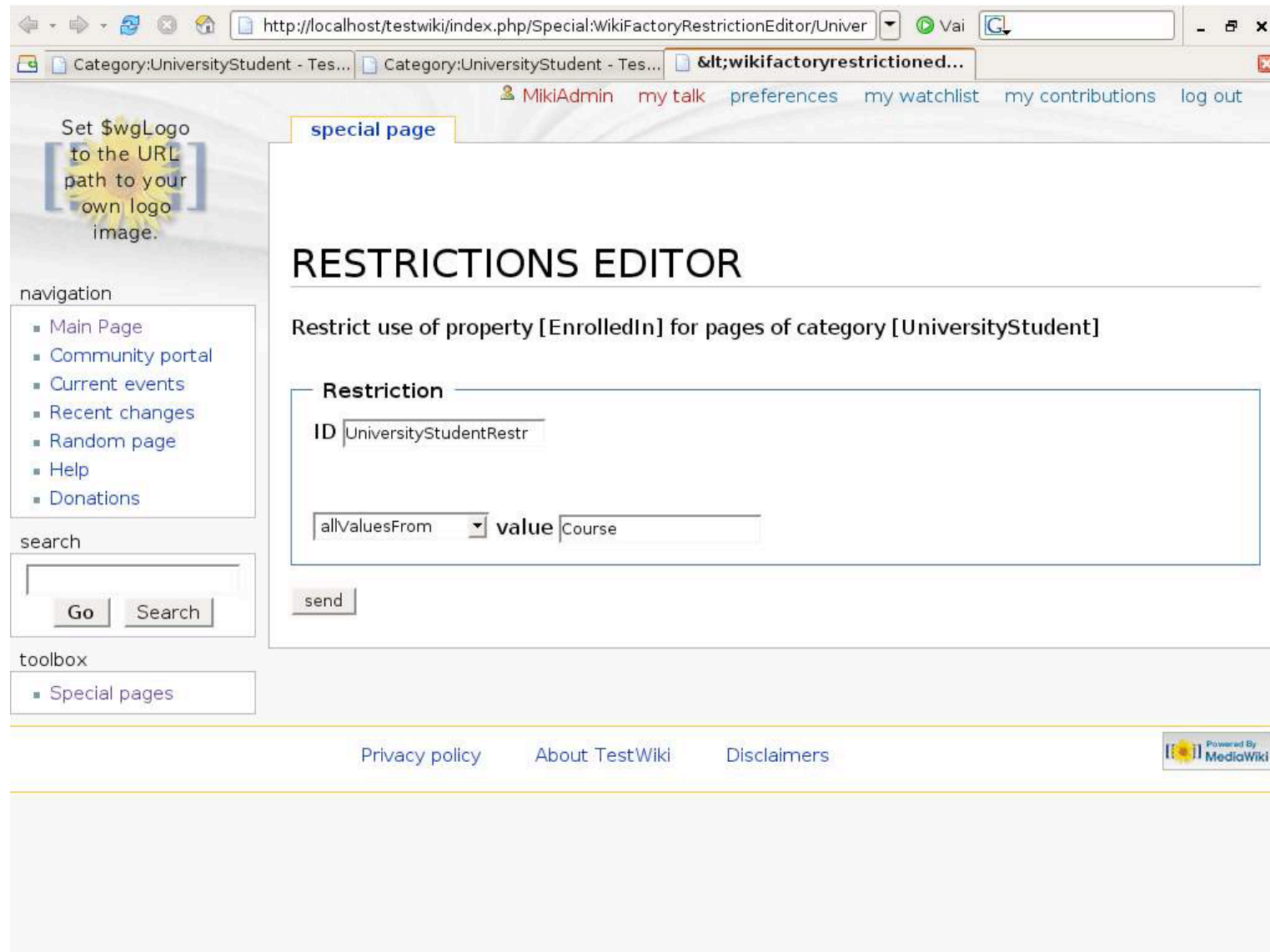
Editing help on relations and attributes [View as RDF](#) [\[edit\]](#)

Suggested Relations

- HasSupervisorProfessor
- HasSupervisorAssistant
- EnrolledIn

Categories: CSUniversityStudent | Student | UniversityStudent

WF help for editing restrictions



The screenshot shows a web browser window with the URL `http://localhost/testwiki/index.php/Special:WikiFactoryRestrictionEditor/Univer`. The browser has multiple tabs, including one titled `<wikifactoryrestricteded...`. The user is logged in as `MikiAdmin`, with links for `my talk`, `preferences`, `my watchlist`, `my contributions`, and `log out`.

On the left side of the page, there is a navigation menu with the following links:

- Main Page
- Community portal
- Current events
- Recent changes
- Random page
- Help
- Donations

Below the navigation menu is a search box with `Go` and `Search` buttons. Further down is a toolbox with a link for `■ Special pages`.

The main content area is titled `special page` and `RESTRICTIONS EDITOR`. It contains the text: `Restrict use of property [EnrolledIn] for pages of category [UniversityStudent]`.

Below this text is a `Restriction` box containing:

- `ID` `UniversityStudentRestr`
- `allValuesFrom` `value` `Course`

A `send` button is located below the restriction box.

At the bottom of the page, there are links for `Privacy policy`, `About TestWiki`, and `Disclaimers`. A `Powered By MediaWiki` logo is also present.



From domains to collaborative environments

- We have seen that WikiFactory is able to deploy a wiki out of elements from a domain ontology and its instances
- Similarly, it is able to deploy a wiki out of a meta-level ontology (in our case, C-ODO), and its instances (specific collaborative ontology design projects)
- C-ODO instance projects can be deployed together with domain ontology elements, resulting in a real collaborative ontology design environment
- An example of this environment will be presented at review time
- Here we show how such a wiki environment could be, based on an explicit model of argumentation taken from DILIGENT methodology
- The templates and non-wiki functions presented will be specified at the metamodel layer (*interface metamodel*), which will be eventually supported by WikiFactory



A wiki-based argumentation tool

{Slides from argumentation wiki mockup}