EXCERPT FROM : Document de spécification :

Spécification d'un format standard d'import/export entre forges

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<tr>
<th>Livrable du au titre du projet</th>
<th>COCLICO</th>
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<td>Lot</td>
<td>WP2 (Interopérabilité et échange de données)</td>
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<tr>
<td>Tache</td>
<td>2.2 (Spécification d'un format d'échange standard pour l'import/export “à froid” de données dans les forges)</td>
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<tr>
<td>O. Berger</td>
<td>S. Labbene</td>
<td>C. Bac</td>
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Documents de références

Annexe technique du projet COCLICO
Gestion des versions

<table>
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<td>12/10/2010</td>
<td>O. Berger &amp; S. Labbene</td>
<td>Première version</td>
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2 Ontologie de forges « planetforge »

2.1 planetforge ontology draft

Working Draft — 2010/04/07

Authors:
BERGER Olivier, LABBENE Sabri, Institut TELECOM (as part of project COCLICO)

Contributors:
See acknowledgements

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Development of COCLICO is supported by several public french agencies as part of the "Pôles de compétitivité" System@tic and Minalogic cluster programmes. As the work is undertaken in the frame of "Libre software" thematics group of System@tic, a compatible license is adopted for this document.

This work is licensed under a Creative Commons Attribution 2.0 France license. This copyright applies to the PLANETFORGE Ontology Specification and accompanying documentation and does not apply to PLANETFORGE data formats, ontology terms, or technology.

Regarding underlying technology, PLANETFORGE relies heavily on W3C's RDF technology, an open Web standard that can be freely used by anyone.

This visual layout and structure of the specification was adapted from the SIOC Core Ontology Specification, and generated with the SpecGen tool.

2.2 Abstract

This specification defines a proposed draft of Ontology to be used to describe projects and their data inside a software forge. It also describes the forge’s software and the tools integrated in it.

The key is to establish a standard that is generic enough and extendable, so as to allow people to implement first tools, while preserving their usefulness in the future.

The standard should be pragmatic but advanced enough to be versatile and avoid re-investing effort for using it to address new needs.
2.3 Status of this Document

This is a work in progress! This document is changing on a daily if not hourly basis.

Note that the compatibility with OSLC-Core in particular needs to be further studied and documented.

This document integrates content of files available in the COCLICO WP2's BZR repository as a set of turtle files (https://forge.projet-coclico.org/scm/loggerhead/wp2/documents/files), and may ultimately be coded and documented in OWL format. Please refer to these files in case of doubt.

Comments are very welcome, please send them to wp2-general@lists.forge.projet-coclico.org. Thank you.

2.4 Introduction

This ontology is drafted in order to help describe high-level entities found in Software development Forges (like FusionForge) like the tools that operate the platform and the projects hosted there.

This work is conducted as part of the COCLICO project.

2.4.1 About the COCLICO project

The COCLICO project groups companies and academic institutions interested in fostering the Software Forge ecosystem.

Among the deliverables of the COCLICO project, are several tasks relating to semantic interoperability of software forges and associate tools (mainly for its WP2 purposes, about export/import format definition).

2.4.2 About the PLANETFORGE community

The PLANETFORGE community was started by a few volunteers (including later participants to the COCLICO project), to provide a community site for discussion and collaboration in the ecosystem around software development forges (intended at tool developers, end users, potential users, and so on).

The generic nature of the current proposed PLANETFORGE ontology draft makes it a good candidate for contribution to the PLANETFORGE community, hoping that it will be maintained by volunteers from that community in the future. Hence the proposed name for this ontology.

2.5 PLANETFORGE ontology at a glance

An alphabetical index of NAME terms, by class (concepts) and by property (relationships, attributes), are given below. All the terms are hyperlinked to their detailed description for quick reference.
The following (slightly outdated) diagram shows the main entities and relationships between them in the PLANETFORGE ontology. This is a UML-like representation of the main entities only. See forge-onto.uxf in https://forge.projet-coclico.org/scm/loggerhead/wp2/documents/files

2.6 PLANETFORGE ontology overview

The PLANETFORGE definitions presented here are (shameless borrowing from SIOC specs) "... written using a computer language (RDF/OWL) that makes it easy for software
to process some basic facts about the terms in the ontology, and consequently about the things described in PLANETFORGE documents. A PLANETFORGE document, unlike a traditional Web page, can be combined with other PLANETFORGE and RDF documents to create a unified database of information."

The proposed ontology expands ontologies such as SIOC, DOAP and FOAF. Some familiarity with SIOC is required to better understand the proposed model.

The Ontology describes:

- **tools** and software made available for hosting projects (see [3.6.2.]);
- **projects**, their participants and produced artifacts, and their collaboration spaces provided through the forge's tools (see [3.6.3]).

The goal of this ontology is not to provide an extensive description of all the entities found in Software Forges, but, for the moment, only to describe the highest level generic entities that will be found in most of the Software Forges deployed on the Web, and that will adequately describe most of the projects hosted on these.

2.6.1 Example

Here is a very basic document (in RDF NTriples syntax) describing a planetforge:ForgeService hosted at http://forge.example.org/:

```xml
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix planetforge: <http://coclico-project.org/ontology/planetforge#> .

<https://forge.example.org/>  
  <rdf:type> <planetforge:ForgeService> ;  

<https://forge.example.org/#forge>  
  <rdf:type> <planetforge:ForgeSoftware> ;  
  <planetforge:name> "FusionForge" ;  
  <planetforge:version> "5.0" .
```

2.6.2 Tools/Software description

The first category of entities modeled by the Ontology corresponds to the right-most part of the diagram above, and describes the tools that are available in a Software Forge platform. These are important to describe in order to (later) specify the kind of data that may be found in export formats, the capabilities of tools, etc.

See the forge-onto.turtle file in https://forge.projet-coclico.org/scm/loggerhead/wp2/documents/files

2.6.3 Projects description

The second category of entities modeled by the Ontology corresponds to the left-most part of the diagram above, and describes projects that are hosted on a Software Forge service.
These will model individual projects and the structure of the collaboration spaces that they use in the forge.

See the project-onto.turtle file in https://forge.projet-coclico.org/scm/loggerhead/wp2/documents/files

Some of the sioc:Container that we have described are probably already present in SIOC “types” module at http://rdfs.org/sioc/types

2.6.4 Relation to existing ontologies

The Ontology complements DOAP and SIOC, and specializes the later in order to describe a particular kind of SIOC collaboration spaces available in Software Forges.

2.7 Cross-reference for NAME classes and properties

PLANETFORGE introduces the following classes and properties. See the PLANETFORGE Namespace in RDFS/OWL for more details.

2.7.1 Class: planetforge:Bzr
URI: http://coclico-project.org/ontology/planetforge#Bzr

sub-class-of:
  planetforge:SourceRepository

2.7.2 Class: planetforge:BzrScmTool
URI: http://coclico-project.org/ontology/planetforge#BzrScmTool

Bzr scm manager - A bazaar (bzr) source code manager

sub-class-of:
  planetforge:ScmTool

2.7.3 Class: planetforge:CvsScmTool
URI: http://coclico-project.org/ontology/planetforge#CvsScmTool

CVS scm manager - A CVS source code repository manager

sub-class-of:
  planetforge:ScmTool

2.7.4 Class: planetforge:DocumentsTool
URI: http://coclico-project.org/ontology/planetforge#DocumentsTool

Documents manager - A documents manager (aka docman)

sub-class-of:
  planetforge:Tool
2.7.5  Class: planetforge:FileReleases
URI: http://coclico-project.org/ontology/planetforge#FileReleases

- sub-class-of:
  http://rdfs.org/sioc/types#Briefcase

2.7.6  Class: planetforge:FilesTool
URI: http://coclico-project.org/ontology/planetforge#FilesTool

Files manager - A file release manager.
sub-class-of:
  planetforge:Tool

2.7.7  Class: planetforge:ForgeProject
URI: http://coclico-project.org/ontology/planetforge#ForgeProject

Forge Project - A forge project hosted on a Forge Service
sub-class-of:
  sioc:Space
goap:Project
in-domain-of:
  planetforge:hosted_by
in-range-of:
  planetforge:collaboration_space

2.7.8  Class: planetforge:ForgeService
URI: http://coclico-project.org/ontology/planetforge#ForgeService

Forge Service - A forge service hosting projects. SF.net is an example of such a service, as well as http://forge.projet-coclico.org/
sub-class-of:
  sioc:Site
in-domain-of:
  planetforge:operated_by
in-range-of:
  planetforge:hosted_by

2.7.9  Class: planetforge:ForgeSoftware
URI: http://coclico-project.org/ontology/planetforge#ForgeSoftware

Forge software - A large sofware application than can be installed to run a forge. FusionForge or Codendi are examples of such Forge software
sub-class-of:
2.7.10 Class: planetforge:ForumTool
URI: http://coclico-project.org/ontology/planetforge#ForumTool
*Forum manager.* - A forum manager. For instance FusionForge forum tool.
sub-class-of:
  planetforge:Tool

2.7.11 Class: planetforge:GitScmTool
URI: http://coclico-project.org/ontology/planetforge#GitScmTool
*Git scm manager* - A Git source code manager
sub-class-of:
  planetforge:ScmTool

2.7.12 Class: planetforge:MailingListTool
URI: http://coclico-project.org/ontology/planetforge#MailingListTool
*Mailing-list manager.* - A mailing-list manager. For instance Sympa or Mailman tools
sub-class-of:
  planetforge:Tool

2.7.13 Class: planetforge:NewsTool
URI: http://coclico-project.org/ontology/planetforge#NewsTool
*News manager* - A forum tool specialized for publishing news.
sub-class-of:
  planetforge:ForumTool

2.7.14 Class: planetforge:ScmTool
URI: http://coclico-project.org/ontology/planetforge#ScmTool
*Scm manager* - A source code manager. Subclasses are available for different tools.
sub-class-of:
  planetforge:Tool

2.7.15 Class: planetforge:SourceRepository
URI: http://coclico-project.org/ontology/planetforge#SourceRepository
*
sub-class-of:
   sioc:Container

2.7.16  Class: planetforge:SvnScmTool
URI: http://coclico-project.org/ontology/planetforge#SvnScmTool
Subversion scm manager - A Subversion (SVN) source code repository manager
sub-class-of:
   planetforge:ScmTool

2.7.17  Class: planetforge:TaskList
URI: http://coclico-project.org/ontology/planetforge#TaskList
   -
sub-class-of:
   sioc:Container

2.7.18  Class: planetforge:TaskTool
URI: http://coclico-project.org/ontology/planetforge#TaskTool
Task manager - A Tracker tool specialized for task management.
sub-class-of:
   planetforge:TrackerTool

2.7.19  Class: planetforge:Tool
URI: http://coclico-project.org/ontology/planetforge#Tool
Software tool - A software application or tool
in-domain-of:
   planetforge:name
   planetforge:version
in-range-of:
   planetforge:integrates
   planetforge:provided_by

2.7.20  Class: planetforge:Tracker
URI: http://coclico-project.org/ontology/planetforge#Tracker
   -
sub-class-of:
   sioc:Container
2.7.21 Class: planetforge:TrackerTool
URI: http://coclico-project.org/ontology/planetforge#TrackerTool
Tracker tool. - A generic tracker tool. For instance FusionForge or Codendi tracker tools.
sub-class-of:
    planetforge:Tool

2.7.22 Class: planetforge:WikiTool
URI: http://coclico-project.org/ontology/planetforge#WikiTool
Wiki manager - A wiki manager. For instance Mediwiki, phpWiki or FosWiki.
sub-class-of:
    planetforge:Tool

2.7.23 Property: planetforge:collaboration_space
URI: http://coclico-project.org/ontology/planetforge#collaboration_space
has collaboration space - A collaboration space for a Project
OWL Type:
    ObjectProperty
Domain:
    foaf:Project
Range:
    planetforge:ForgeProject

2.7.24 Property: planetforge:hosted_by
URI: http://coclico-project.org/ontology/planetforge#hosted_by
hosted by - A Forge Service which hosts a project
OWL Type:
    ObjectProperty
Domain:
    planetforge:ForgeProject
Range:
    planetforge:ForgeService

2.7.25 Property: planetforge:integrates
URI: http://coclico-project.org/ontology/planetforge#integrates
integrates - tools that are integrated together in one forge
OWL Type:
    ObjectProperty
Domain:
    planetforge:ForgeSoftware
Titre du document : Document de spécification : Spécification d'un format standard d'import/export entre forges

Référence : LI-2-2-1

Version 1.0 du 12/10/2010

Range:
   planetforge:Tool

2.7.26 Property: planetforge:name

URI: http://coclico-project.org/ontology/planetforge#name

name - Name of a tool, which unambiguously represents a software package name.

OWL Type:
   DatatypeProperty

Domain:
   planetforge:Tool

Range:
   rdfs:Literal

2.7.27 Property: planetforge:operated_by

URI: http://coclico-project.org/ontology/planetforge#operated_by

operated by - A forge software application that is operated to deliver the Forge Service

OWL Type:
   ObjectProperty

Domain:
   planetforge:ForgeService

Range:
   planetforge:ForgeSoftware

2.7.28 Property: planetforge:provided_by

URI: http://coclico-project.org/ontology/planetforge#provided_by

provided by - The tool that provides a container for collaboration for the project

OWL Type:
   ObjectProperty

Domain:
   sioc:Container

Range:
   planetforge:Tool

2.7.29 Property: planetforge:version

URI: http://coclico-project.org/ontology/planetforge#version

version - version of a tool

OWL Type:
   DatatypeProperty

Domain:
planetforge:Tool

Range:

rdfs:Literal

...

2.8 References

SIOC

*SIOC Core Ontology Specification* (Semantically-Interlinked Online Communities).

2.8.1 Other references

IETF RFC 2119


2.9 Changes in this version (Non-Normative)

- *vs. 2010/02/19*: Renamed the ontology to "planetforge".

2.10 Acknowledgements (Non-Normative)

...
3 Format d'export/sauvegarde

3.1 Range of the format specification

There are different levels of data and meta-data description that we need to specify:

- **semantics of the resources** present in dumps: these should match the semantics of the same resources in the real life, in the forges: projects, tools, people, identification of the artefacts developed, etc.
- some elements of **description of the structure** of the sub-documents found in the dump ("meta-model" of the formats bellow)
- finally some standard **formats** for the sub-documents found in the dumps

3.2 Proposal for a standard generic forge export/import format

An export/import format may be composed of the following elements:

- a **container** document with a structure similar to the one of an [OpenDocument] file or a JAR (Java Archive [JAR]), i.e. a compressed archive (ZIP) containing sub files and directories, with a **MANIFEST file** describing its content (allowing the assembling of structured information in XML files or raw dumps in the same archive, with respective identifying mime types).
- a contained **graph of RDF resources** naming the entities/resources that can be found in the file. These are **named entities** (i.e. which may be represented with a long lasting URI that matches human friendly URLs), that may be **referred to** (using these URIs). These are needed for navigating interlinks between tools and produced artefacts, to represent actors roles and activities, or other relations between data and meta-data in contained in the archive.

This graph will not be exhaustive, and only needed to allow navigation between inter-related data, in order for import tools to recreate similar structure in the destination forge as in the original exported project. The resources may identify:

- tools descriptions (including their versions or customizations)
- persons
- accounts
- roles
- artefacts (described in business-domain ontologies):
  - bug reports
  - mailing lists (and their posts)
  - code repositories contents (commits and such)
  - documents
  - wiki pages
  - Forums
  - News
• File Releases
  • *mappings* between these *entities URIs* and their corresponding *physical identifiers* in the dumps of the tools (see below). i.e. a person may have different account names in different tools, or a commit may be identified in different ways, etc.
  • *(physical) low-level native format* tool dumps in the preferred formats for the whole of the tool's contents (for limited sets of resources).
  • Optionally, an accompanying description of the target tools preferred meta-model (see examples of the trackers meta-model from Codendi) for recreation of the target tables. This meta-model may contain links to the semantic entities.

The resources in RDF must not be completely descriptive of what they are made of, since this can be retrieved in the native format dumps. Standard ontologies like the "planetforge" ontology should be used to do so, with publicly available schemas (OWL, etc.).

3.3 Implementing export and import

The dumps are the preferred input formats to the converters for other dumps that may be imported in other tools. So there may not be pivot formats, but just ad-hoc converters, piloted through the ID mappings described in the RDF graph that help reconstruct references and such.

There may be limited sets of meta-model and other advanced mappings of ontologies, and humans should be included into the loop to pilot mappings instead of clever magical reasoning engines.

The exports should be created with respect of the following guidelines:

• The retrieval of key resources descriptions in the dump is the key to preservation of the structure of collaboration after restoration/import.
• The structure should match more or less the structure of the graph of links between resources.
• Tools description and document formats are linked to each other: versions of tools can save different formats of documents with potentially different models.
• Links between tools, their versions, and the format of documents, and the associate semantics of the content of these documents needs to be standardized to allow implementation of generic core tools (that shouldn't change much), and specific conversion helpers (that will evolve to adapt to tools evolutions).
• The dump format should be self-contained, and describe its meta-model in a way to represent these links as meta-informations.
• Many tools already offer native dump/extraction formats. These need to be reused if possible instead of reinventing the wheel, provided that resources can be matched in unambiguous way in the formats.
• Of course, formats using standard languages would be better than opaque/raw formats.
3.4 Semantics of the resources

A forge may not be defined in a universal way at the moment, nor a collaboration project hosted in a forge. For instance there are differences whether one considers a forge as an all-in-one hosting platform, or whether it can be seen as an assembly of interoperable individual tools.

Still we intend to propose standardization of the core minimal attributes that may be validated and extended later-on by implementors, starting with a generic core described in a uniform way, as in the proposed “planetforge” ontology (see 2).

At the early stages of our work, it appears that semantic descriptions of resources that need to be standardized are:

- Hosting platform forge services (where projects are physically hosted, and where people collaborate, maybe by whom they are operated)
- Hosting platform forge applications (which pieces of software are installed and in which versions on one particular hosting platform)
- Collaboration project / community (groups of people that collaborate using tools provided by a forge application, with certain roles in this community)
- People / accounts participating in collaboration projects
- Links between these resources
- Artifacts produced by the projects, and stored in the tools’ collaboration spaces / repositories / databases

3.4.1 Artifact description

Project artifacts need to be semantically described. The following describes a minimalistic/non-exhaustive list of artifacts and their properties that should be present in dumps.

For illustration (further analysis will be conducted in later iterations), we provide a mapping of some properties names, as found in forges like FusionForge or Codendi for such artifacts, to Dublin Core terms.

Note: Dublin Core also serves as a basis for OSLC-Core specifications, which will be preferred in later iteration of the “planetforge” ontology whenever they will fit our needs.

Documents:

- Title → dc:title
- Description → dc:description
- Owner → dc:creator
- Language → dc:language
- Create Date → dc:created

1 see https://forge.projet-coclico.org/plugins/mediawiki/wiki/wp3/index.php/Metadonn%C3%A9es
2 Exhaustive specification for DublinCore terms can be found here: http://dublincore.org/2008/01/14/dcterms.rdf#
• Update Date → dc:modified
• Extra Fields : fields created by users will be stored in this metadata.

Mailing List messages:

• Title → dc:title
• Sender → dc:creator
• Date → dc:created

Tracker tickets:

Trackers contain a lot of data in semi-structured way.

There are several ontologies that were drafted to model these, but the most interesting may be the OSLC-CM V2 proposed standard (in finalization stage, at the moment), as it is meant to be implemented for tracker artifacts manipulation using OSLC-CM compatible REST APIs.

Forums messages:

Forums contain messages. For each message, we will be interested in these properties:

• Forum name → dc:provenance
• Subject → dc:subject
• Body → dc:description
• Author → dc:creator
• Date → dc:issued

News feeds:

Same as for Forums artifacts.

Source Code repositories:

• File name → dc:title
• Creation date → dc:created
• Update date → dc:modified
• Owner → dc:publisher
• Last committer → dc:contributor

File release system:

Supposing that a release is part of a package (codendi model)

• Package name → dc:isPartOf
3.4.2 Examples

The following shows an example (in [Turtle] syntax) of RDF description for real examples of a forge and a project's description.

3.4.2.1 The forge.projet-coclico.org FusionForge platform

Here is an example document (in RDF NTriples syntax) describing a FusionForge installation. It describes the tools and their versions. This is a manually edited content, not reflecting precisely any real application output:

```turtle
@prefix coclico: <http://coclico-project.org/ontology/coclico#>.

<https://forge.projet-coclico.org/> a coclico:ForgeService ;
<https://forge.projet-coclico.org/#software> a coclico:ForgeSoftware ;
 coclico:name "fusionforge" ;
 coclico:version "4.8" ;
 coclico:integrates <https://forge.projet-coclico.org/#tracker> ;
 coclico:integrates <https://forge.projet-coclico.org/#forums> ;
 coclico:integrates <https://forge.projet-coclico.org/#frs> ;
 coclico:integrates <https://forge.projet-coclico.org/#tasks> ;
 coclico:integrates <https://forge.projet-coclico.org/#docman> ;
 coclico:integrates <https://forge.projet-coclico.org/#news> ;

<https://forge.projet-coclico.org/#tracker> a coclico:TrackerTool ;
 coclico:name "fusionforge/trackers".
<https://forge.projet-coclico.org/#forums> a coclico:ForumTool ;
 coclico:name "fusionforge/forums".
<https://forge.projet-coclico.org/#frs> a coclico:FilesTool ;
 coclico:name "fusionforge/files".
<http://lists.forge.projet-coclico.org/mailman/> a coclico:MailingListTool ;
 coclico:name "mailman" ;
 coclico:version "2.1.11".
<https://forge.projet-coclico.org/#tasks> a coclico:TaskTool ;
 coclico:name "fusionforge/tasks".
<https://forge.projet-coclico.org/#docman> a coclico:DocumentsTool ;
 coclico:name "fusionforge/docman".
<https://forge.projet-coclico.org/#news> a coclico:NewsTool ;
 coclico:name "fusionforge/news" .
<https://forge.projet-coclico.org/#bzrscm> a coclico:BzrScmTool ;
 coclico:name "fusionforge/bzr_scm" .
<https://forge.projet-coclico.org/plugins/mediawiki/> a coclico:WikiTool ;
```
3.4.2.2 Example of project description in a forge

This is an example (in RDF NTriples syntax) of a description (only partial) of a coclico WP2's project hosted at forge.projet-coclico.org. This is a manually edited content, not reflecting precisely any real application output:

```
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix owl:  <http://www.w3.org/2002/07/owl#> .
@prefix doap: <http://usefulinc.com/ns/doap#> .
@prefix foaf:  <http://xmlns.com/foaf/0.1/> .
@prefix sioc:  <http://rdfs.org/sioc/ns#> .
@prefix sioc_types: <http://rdfs.org/sioc/types#> .
@prefix coclico: <http://coclico-project.org/ontology/coclico#> .

# Project interop WP2
# This is the community / project (IRL) that uses a forge project to collaborate
<http://www.coclico-project.org/wp2>
  a doap:Project ;
  doap:name "coclico-wp2" ;
  doap:shortdesc "Coclico project Work package 2"@fr ;
# This community uses a (primary) collaboration space in this forge
# See the foaf:currentProject of foaf:Persons pointing to this community
doaohomepage <http://www.coclico-project.org/wp2> .

# Now about persons that participate to this community
# Olivier Berger as a person
<https://forge.projet-coclico.org/users/oberger/#me>
  a foaf:Person ;
  foaf:name "Olivier Berger" ;
  foaf:currentProject <http://www.coclico-project.org/wp2> ;
  foaf:holdsAccount <https://forge.projet-coclico.org/users/oberger/> ;
  rdfs:seeAlso <https://forge.projet-coclico.org/users/oberger/> ;
# a person's account
  owlsameAs <http://www-public.it-sudparis.eu/~berger_o/foaf.rdf> .

# Christian Bayle as a person
<https://forge.projet-coclico.org/users/cbayle/#me>
  a foaf:Person ;
  foaf:name "Christian Bayle" ;
  foaf:currentProject <http://www.coclico-project.org/wp2> ;
  foaf:holdsAccount <https://forge.projet-coclico.org/users/cbayle/> ;
  rdfs:seeAlso <https://forge.projet-coclico.org/users/cbayle/> .

# Now about the wp2 project in the forge
# This is the project in the forge for WP2
<https://forge.projet-coclico.org/projects/wp2/>
  a coclico:ForgeProject ;
# then it's also a sioc:Space and a doap:Project
# found in https://forge.projet-coclico.org/projects/wp2/
  doap:name "wp2" ;
  doap:shortdesc "WP2 Interopérabilité"@fr ;
  doap:description "Développements concernant l'interopérabilité entre forges."@fr ;
# links to its hosting forge
coclico:hosted_by <https://forge.projet-coclico.org/> ;
# description of the tools WRT DOAP : these may no longer be used as less precise than coclico ones
doaohomepage <http://wp2.forge.projet-coclico.org/> ;
doap:blog <https://forge.projet-coclico.org/news/?group_id=8> ;
doap:repository [
  a doap:BazaarBranch ;
doap:mailing-list <mailto:wp2-general@lists.forge.projet-coclico.org> ;
# Description of persons roles WRT DOAP
doap:developer <https://forge.projet-coclico.org/users/oberger/#me> ;
doap:developer <https://forge.projet-coclico.org/users/cbayle/#me> ;
doap:developer <https://forge.projet-coclico.org/users/chris78/#me> ;
```
doap:developer <https://forge.projet-coclico.org/users/riase/#me>;
doap:developer <https://forge.projet-coclico.org/users/guerin/#me>;
doap:developer <https://forge.projet-coclico.org/users/lolando/#me>;
doap:developer <https://forge.projet-coclico.org/users/labbenes/#me>;
doap:developer <https://forge.projet-coclico.org/users/vcaron/#me>;

# List of accounts for all members of the project
sioc:scope_of [
    a sioc:Role;
sioc:name "project_member";
sioc:function_of <https://forge.projet-coclico.org/users/cbayle/>
];

# List of collaboration spaces for the project
sioc:has_space <https://wp2.forge.projet-coclico.org/tracker/group_id/8/at_id/117>;
sioc:has_space <https://wp2.forge.projet-coclico.org/tracker/group_id/8/at_id/119>;
sioc:has_space <https://wp2.forge.projet-coclico.org/tracker/group_id/8/at_id/120>;
sioc:has_space <https://forge.projet-coclico.org/frs/?group_id=8>;
sioc:has_space <mailto:wp2-general@lists.forge.projet-coclico.org>;
sioc:has_space <https://forge.projet-coclico.org/docman/?group_id=8>;
sioc:has_space <https://forge.projet-coclico.org/news/?group_id=8>;

# Olivier's account in the core of the forge
<https://forge.projet-coclico.org/users/oberger/>;
# These two types are equivalent
a foaf:OnlineAccount;
a sioc:User;
foaf:accountName "oberger";
sioc:email <mailto:olivier.berger@it-sudparis.eu>;
# this one is a bit weird, but seems the preferred way to attach a user/account to its service, it seems

# Additional specification of a particular rôle for an admin of the project
<https://forge.projet-coclico.org/users/oberger/>;
sioc:has_function [
    a sioc:Role;
sioc:name "project_admin";
sioc:has_scope <https://forge.projet-coclico.org/projects/wp2/>
].

# Now for another account
<https://forge.projet-coclico.org/users/cbayle/>;
a foaf:OnlineAccount;
a sioc:User;
foaf:accountName "cbayle".

<https://forge.projet-coclico.org/users/cbayle/>;
sioc:has_function [
    a sioc:Role;
sioc:name "senior_developer";
sioc:has_scope <https://forge.projet-coclico.org/projects/wp2/>
].

# The forge service (see forge-projet-coclico-org.turtle)
<https://forge.projet-coclico.org/>;
a coclico:ForgeService .

# Then for a bugtracker ... see Helios ontology for bugtracker properties
<https://wp2.forge.projet-coclico.org/tracker/group_id/8/at_id/117>;
a coclico:Tracker;
sioc:name "Bugs";

<https://forge.projet-coclico.org/tracker/?atid=117&group_id=8>;

<https://forge.projet-coclico.org/frs/?group_id=8>;
a coclico:FileReleases;

<mailto:wp2-general@lists.forge.projet-coclico.org>;
a sioc_types:MailingList;

<https://forge.projet-coclico.org/pm/task.php?group_project_id=10&group_id=8>;
a coclico:Tasklist;
sioc:name "À faire"@fr ;
Titre du document : Document de spécification : Spécification d'un format standard d'import/export entre forges

Référence : LI-2-2-1

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<https://forge.projet-coclico.org/pm/task.php?group_project_id=11&group_id=8>
  a coclico:Tasklist ;
  sioc:name "Prochaine version"@fr ;

<https://forge.projet-coclico.org/docman/?group_id=8>
  a sioc_types:Briefcase ; # maybe need something more specific ?

<https://forge.projet-coclico.org/news/?group_id=8>
  a sioc_types:Weblog ;

<https://forge.projet-coclico.org/scm/browser.php?group_id=8>
  a coclico:Bzr ;

  a sioc_types:Wiki ;

# And so on for other projects on the same forge


# Then other projects a user participates in
4 Bibliographie

[DC] Dublin Core Metadata Initiative (http://dublincore.org/specifications/)
[DOAP] Description Of A Project (http://trac.usefulinc.com/doap)
[FOAF] Friends Of A Friend (http://xmlns.com/foaf/spec/)
[ForgePlucker] (http://home.gna.org/forgeplucker/)
[Helios] Projet Helios (http://heliosplatform.org/)
[OSLC] Open Services for Lifecycle Collaboration (http://open-services.net)
[OSLC Core] (http://open-services.net/bin/view/Main/OslcCore)
[RDF] Resource Description Framework (http://www.w3.org/RDF/)
[SIOC] Semantically Interlinked Online Communities (http://sioc-project.org/ontology)
[Turtle] Terse RDF Triple Language (http://www.w3.org/TeamSubmission/turtle/)