# W3C LBD Community Group
# Minutes - Call 13/07/2021

## Attendees:

- Katja Breitenfelder (Fraunhofer IBP)
- Mathias Bonduel (KU Leuven & Neanex Technologies)
- Anna Wagner (individual associated with PROSTEP AG)
- Goncal Costa (LaSalle University)
- Philipp Hagedorn (Ruhr-Uni Bochum)
- Christian Kreyenschmidt (Jade Hochschule Oldenburg)
- Ranjith Soman (Imperial College London)
- Artur Tomczak (Norwegian University of Science and Technology)
- Calin Boje (Luxembourg Institute of Science and Technology)
- Alex Donkers (Eindhoven University of Technology)
- Madhumitha Senthilvel (RWTH Aachen University)
- Kevin Luwemba Mugumya
- Joel Bender (Cornell University)
- Pierre Bourreau (Nobatek)
- Mads Holten Rasmussen (Niras)
- Herve Pruvost
- Serge Justinian Raynaud Chavez Feria

## Presentation slides

Link to the slides on:
- Google Drive
- Github

## Date and time

- 13/07/2021, Tuesday, 15:00-16:30@UTC/ 17:00-18:30@CEST/ 08:00-09:30@PST

## Moderators

1. Katja Breitenfelder

## Agenda

1. Introduction of new members
2. BIMERR Project presentation

## Minutes

1. Introduction of new/returning members

a. Artur Tomczak: (website, Linkedin) - researcher at Norwegian University of Science and Technology, working on digitalisation of project management for sustainable built environment. Experienced with computational engineering, BIM automation, structural engineering and sustainability studies. Currently focusing on BIM data quality assurance with IDS (Information Delivery Specification).

2. **BIMERR Project Presentation** by Maria Povéda Villalón
   a. Proposed solution for interoperability of heterogeneous software landscapes: BIMERR ontology network
   b. Modular structure, with different focus points for each workshop and area (https://bimerr.iot.linkeddata.es/index.html)
   c. Used methodology: Linked Open Terms Methodology
      i. Agile and web-based approach
      ii. First step (Requirement Specification): Use Case definition with sample data
      iii. Second step: Ontology Implementation:
         1. Ontology Conceptualization: UML-based models with annotations as close as possible to OWL without overwhelming non-experts
         2. Ontology Implementation: Chowlk - diagram modeller with OWL encoder https://chowlk.linkeddata.es/
         3. Reusing existing ontologies:
            SAREF4BLDG, BOT, FOAF, SKOS, …
            DOLCE & BFO are not reused, as this would exceed the limits of the project
         4. Transform existing standards: obXML Annex66
      iv. Cycle between the first two steps is important during development
      v. Publishing the ontology online (e.g. GitHub)
      vi. Documentation:
         1. WIDOCO https://github.com/dgarijo/Widoco
         2. LoV https://lov.linkeddata.es/dataset/lov/
         3. Network portal for the entire ontology network (documentation, name, repository, releases, issue tracker, network summary)
      vii. Custom JSON model (not JSON-LD) to optimise in regard of existing applications
      viii. RML mapping to other standards (epw, idf, obXML)
   d. Questions:
      i. (Joel Bender) Are you using JSON-schema for the JSON model?
         1. (María) yes, we are the partner that creates a JSON-schema as output from the ontology conversion. Another party in the project uses it to built the interoperability layer used in the project.
      ii. (Mathias Bonduel) Why did you create new IRIs for Buildings/Space, etc. and did not reuse the concepts directly?

1. (María) Rule of thumb: Creating a subclass, if you add new properties and attributes. Also, there was a slightly different understanding at the beginning

iii. (Mathias Bonduel) Chowlk: Can you also upload an existing ontology to create an UML diagram that can be extended?
    1. (María) Not yet. You can upload XML files from diagrams.net

iv. (Mathias Bonduel) There is a tool to create OWL and SHACL from UML diagrams, maybe it can help: https://github.com/Informatievlaanderen/OSLO-EA-to-RDF
    1. (María) Our plan is to also generate SHACL shapes, currently we only have OWL constraints

v. (Gonçal Costa Juglar) You mentioned a specific methodology/process to create your ontologies. Can you go a bit more into detail?
    1. (María) Full documentation at: https://lot.linkeddata.es/ However, there is not one-true way.

vi. (Gonçal Costa Juglar) Regarding RML: Why do you use that? And not SPARQL Generate?
    1. (María) Not familiar with SPARQL Generate. Actually, we use RML together with mappings, if RML is not enough
    2. (Mathias) RML is closer to standards. SPARQL Generate is mostly supported by tools of Maxime.

vii. (Joel Bender) Are you (or anyone in the community) aware of a tool to document SHACL rules similar to WIDOCO?
    1. (María) Tools to generate SHACL from ontologies and scripts to include SHACL in Widoco, but the SHACL rules are not documented. Will pass the message to WIDOCO developers
    2. (Mathias) Maybe a rumour, but developers of pyLODE are supposedly starting to develop something: https://github.com/RDFLib/pyLODE (on the agenda of v3)

viii. (Madhumitha Senthilvel) BIM4REN Project : Tools for creating SHACL shapes catering to ifcOWL and BOT-based LBD.
Paper documenting the approach:
https://publications.rwth-aachen.de/record/795561/files/795561.pdf
1. Database of SHACL rules created using the tool:
https://github.com/Design-Computation-RWTH/BIM4Ren_SHACLDB
2. Tool + BOT for SHACL shape creation and validation
https://github.com/Design-Computation-RWTH/SHACLConstraintCreator
https://github.com/AECgeeks/tno_b4r_validate_bot

ix. (Mathias Bonduel) JSON vs. JSON-LD - why did you go with plain JSON?
    1. (María) Mostly transformation and optimisation for IFC

x. (Katja) What are your open points?
    1. (María) Implementation is finished, some refinement is (always) needed. Alignment has to be reviewed between SAREF4BLDG

and SSN/SOSA. edw transformation could be demonstrated on example files

xi. (Katja) Can you tell me a bit more about the starting point and expected outcome?
    1. (María) Idea to enable renovation of buildings based on energy simulation methods. Combining occupant behaviour with simulations and building data. → Proposing renovation plans that can be selected. And updating the renovation process with the main data pool. Big picture: enablement of interoperability in entire renovation process.

xii. (Calin Boje) What is your timeline?
    1. (María) started 3 years ago. It will run until next July.

xiii. (Joel Bender) How many people are working on this
    1. (María) UPM: 3, Entire project would be many more, 16 partners, probably 40 people. Organized by domains to ease collaboration

xiv. (Artur Tomczak) What is the overlap between BIM4REN and BIMERR?
    1. (María) Sister projects with some overlaps.
    2. (Mathias) currently discussions going on between 5 european projects with some overlap: BIM4REN, BIMERR, BIM4EEB, SPHERE, BIM-SPEED. On the LDAC/CiB conference this year there is going to be a session with contributions of all these projects. https://www.cibw78-ldac-2021.lu/programme/ & https://www.cibw78-ldac-2021.lu/fileadmin/files/Communication/CIBW78-LDAC2021_Programme_Draft_Updated_12072021.pdf
    3. (Pierre Bourreau) There has been a coordinating workshop and there are ongoing meetings and conversations.
    4. (Alex Donkers) There is also Brains 4 Buildings (TU Delft) that just started and is related to this topic.

e. Closing of the meeting
    i. Two weeks have passed since the votes have been shared with the community group. No vetoes have arrived, so all decisions are now valid.
    ii. https://github.com/w3c-lbd-cg/bot/issues/76 If anyone has questions regarding how to model BOT, please add them to this issue, so we can talk about it after the summer break.
    iii. Last meeting before summer break. Enjoy your holidays and the summer! And most importantly: Stay safe & healthy :)

## Next Call

TBD

We are interested in getting suggestions from the community about potential agenda items and **Elevator Pitches** for the following calls. Please send your suggestions to the chairs or to

internal-lbd@w3.org, whether you have a short presentation to bootstrap the discussion, and an approximate duration you think the discussion will last.

## Previous minutes

**https://www.w3.org/community/lbd/meeting-minutes/**
**https://github.com/w3c-lbd-cg/lbd/tree/gh-pages/minutes**