

Attendees

- Kris McGlinn (TCD)
- Sandra Gannon (IBM)
- Pieter Pauwels (UGent)
- Maria Poveda Villalon (UPMadrid)
- Laura Daniele (TNO)
- Georg Schneider (Fraunhofer IBP)
- Mads Holten Rasmussen (DTU Copenhagen)
- Maxime Lefrançois (Université de Lyon)
- Ana Roxin (University of Burgundy)

Date and time

- 19/01/2017
- 17:00 CET

Agenda

1. Review of charter and scope of project (5 minutes - Kris)
2. Group discussion on scope of work: building data versus building data and complex asset/infrastructure data (10 minutes - Kris/All)
3. Discussion on areas of focus and formation of subgroups (30 minutes - Pieter/All)
4. Suggested changes to the LBD W3 page (5 minutes - Sandra)

Minutes

1. Review of charter and scope of project (5 minutes - Kris)

We ask you to update the list of participants spreadsheet in advance of the call to indicate your primary and secondary areas of focus:

https://www.dropbox.com/s/s7489wxh8j4usj9/BDW_Members.xlsx?dl=0

Where multiple members would like to focus on the same area, we suggest that the members form a subgroup who can work together and report back to the wider group on a weekly/biweekly basis. We could also have time on the agenda for each subgroup to present their work on a rotating monthly basis, for example, to inform and receive input from the wider group. These are just suggestions. We would really like to have your input on how we can ensure that the group works best for its members.

2. Group discussion on scope of work: building data versus building data and complex asset/infrastructure data (10 minutes - Kris/All)

From a round table discussion with the group, we conclude that we can support the following data sets with the members that are in the current call. We will keep revising this list in the upcoming calls, so that everyone gets a chance in modifying this list in the coming weeks from their own background knowledge.

- Domain ontologies

A number of domain experts form small groups within their building-related expertise and build schemas, ontologies and examples on how to work with this particular domain data.

- Geometry

An initial document drafting out an initial set of geometry schemas has been provided at:

https://docs.google.com/document/d/1MlbbztwVCVQCy20rjGNECC8zrN4_c4h63ia6HP4iTP0/edit

> Kris, María

- Automation and Control - devices, control logic etc.

> Georg, Zohreh, María

- Energy Efficiency

> Kris, Laura

- HVAC - heating system

> Mads (SEAS + BOT combination)

- Alignments between Ontologies

A small group of people with experience in combining datasets and ontologies investigate particularly how the diverse domain ontologies and data sets can be combined using standard web technologies.

> Ana, Maxime

Georg: How do we deal with legacy? - We already have defined data domains in the wiki.

Sandra: Each person in the group should indicate what they would like to work on in the online spreadsheet (primary and secondary focus). As the group nominates areas, we know which we

can cover in our scope of work (and thus in the charter). If relevant areas are underrepresented, we can reach out to people who can address those.

3. Discussion on areas of focus and formation of subgroups (30 minutes - Pieter/All)

Pieter: The idea of these subgroups is that diverse domain specialists can focus on bringing their data out, so that they can be combined with other data using standard web technologies. For example, HVAC design might be connected to the control of devices (different ontologies for both). Mads can develop data sets using an HVAC ontology, so that Georg can use it and automate building control using his own ontology.

We should look to combine existing ontologies.

Sandra: What should the groups focus on, i.e. what is out there, what needs to be developed?

Ana: A list of available vocabularies is available which we can use as an input (my study for the CSTB, the list created in <http://smartcity.linkeddata.es/>)

We might also want to support compliance checking

Maxime: I would also like to work on compliance with existing ontologies, to try and ensure we are not creating another ontology, but instead looking at how the existing ontologies can all work together.

I have been working with Mads to see how SEAS can be applied. Happy to describe other aspects of what is needed in this group, but SEAS may be applicable.

Sandra: This is also an opportunity to take part in some of the existing general use cases, to upskill for example, or become more familiar with a specific domain.

Pieter: We have different kinds of people on the call, experts in particular domains (Mads, Georg) and then experts who can help with the linking side of things (Ana, Maxime). We should take advantage of this in organising ourselves. The 'compliance checking' that Maxime and Ana refer to, might actually point to the need that existing and newly developed ontologies should be linked together. The non-domain experts, like Ana and Maxime, could give excellent input in this regard.

Pieter: Should we have BOT as a separate domain ontology, or a reference ontology?

Maxime: This is a good question. Should we support BOT as an upper-level ontology, so that it needs to be included in all use cases that we handle, or should we support BOT as a simple ontology restricted to building topology?

In SEAS we have some answers about ontologies which can be used as upper-level ontologies.

SEAS and SAREF both propose something that can be extended for different building sub domains. I do not know if we should add another upper level ontology; I think we should keep it to topology.

Georg: We need examples of how to connect the different ontologies.

Pieter: I am not sure if we need a BOT as an upper-level ontology. It was certainly not meant to be such a thing. Instead, I think we should restrict BOT to topology, so that one can either use it or ignore it. And yes, we need examples on how the connection between ontologies happens, in any case!

Mads: The idea is that you can also see components (from different domains) in the context of the building. How they relate to the building. If a heater is related to a building, then the building part is a BOT element, which can be easier to interpret for others.

We also must consider owner's requirements of the building, indoor climate classes, temperature spans, air quality, lighting etc.

Kris: include building elements ?

Mads: I have introduced flow elements, as subclasses of BOT elements. So, we could easily extend BOT with separate more specialised building element ontologies.

Sandra: For industry, space is not enough, they want product data, like structural elements and assets. So I think this should be in scope. Product data (e.g., described using the GoodRelations ontology) is critical from the customer side. We need to answer this question about how best to link to product data.

Pieter: Products is columns, walls, lights, etc. ?

Sandra: Fittings may not be all that important in all areas. Airports, nuclear power plants may want to know specific details at a very detailed level.

Maxime: Maybe we can say there is a subclass of BOT element, that is then also a subclass of the class of products in a separate schema. There are already existing vocabularies (e.g., GoodRelations, integrated in schema.org, for specifying financial product details).

Sandra: We need to make sure within our scope that we link into assets.

Maxime: So examples are crucial.

Sandra: Yes, we need to make explicit that we are supporting referencing product/asset data, etc. across its life cycle.

Georg: Should we add a domain - facility management, operation & maintenance?

Pieter: This might be too broad, but we should at least have the option to include ontologies for airports (e.g. [CASCADE](#) ontology), hospitals, etc. In this case, we should go to the manufacturers and ask their input for their specific facilities. In IFC, you have products and they

point to properties, but those are very custom and semantically loosely defined. We should be able to describe specifically the properties we are interested in by talking directly with the manufacturers.

Ana: Industry do need specific product data, which is on the application level. But this can join the discussion of the use cases perhaps. We could have some application example, which combines data from the building and some product data, and provides queries from industry and work on separate application cases illustrating how this can be done with linked data.

Starting from a query in plain English we could have a sub-group working on an application example showing how Linked Data can help integrating building data with specific product data.

Sandra: As long as we are clear about how we reference the (product) data so that it remains relevant for industry.

Ana: How to apply versioning? To be discussed further...

4. Suggested changes to the LBD W3 page (5 minutes - Sandra)

Kris: We propose making some changes to the LBD W3 page:

<https://www.w3.org/community/lbd/>

We would like to add pages where we can link to Github for the following areas:

- Subgroup working folders
- Minutes
- Events

=> Ok, agreed <AP - Kris>

5. Open remarks

Pieter: In the coming meetings we plan to cycle through each area one by one (one domain each meeting). For the next meeting, we could go into more detail with the HVAC ontology.

Ana: We could also add some information about the LDAC workshop. We should also discuss dates, etc. People should indicate dates when they are available.

Maria: Could you share this with a doodle, etc.?

Ana: Doodle link: <http://doodle.com/poll/hx5k4zpc7hnh7yvp>

Maxime: We will also organise the SEAS workshop again in 2017.

Georg: There is also the LC3 Conference in Greece (<http://www.lc3-2017.com/>), maybe we could discuss whether we have a live meeting there as well for those who are present?

Pieter: To all: please send these event notifications over the W3C mailing list, so that we can add them directly to the website.

Action items

- Update Linked Building Data site <AP - Kris> (ONGOING)

Previous action items

- Update Linked Building Data site <AP - Kris> (ONGOING)
- Provide use cases <AP - All> (ONGOING)
- People to provide dates of events, workshops, that are planned, etc. <AP - All> (ONGOING)
- Update calendar on github <AP - Sandra/Pieter> (ONGOING)
- Review geometry models to support BOT <AP - Maria, Kris> (ONGOING)
- Review the BLC stages and data domains <Michel - Ongoing> (ONGOING)
- Provide a list of competency questions for BOT <Mads> (ONGOING)
- Coordinate efforts on GitHub <Kris, Maxime> (ONGOING)
- Generate overview and external facing document/slides <Ana> (ONGOING) - published on the w3C website
- Manage iterations of ontology (BOT) <Mads, Maxime> (ONGOING)
- Invite and update contacts list <All> (ONGOING)

Previous minutes

<https://docs.google.com/document/d/1OSIAU1TWXwrnTJ8M56cXDuoXL1QahJMDm4Qh5g1Qu5U/edit#heading=h.h02yyt3qn>

Next Call

- 24/01/2016 11:00 CET @ gotomeeting