W3C LBD CG

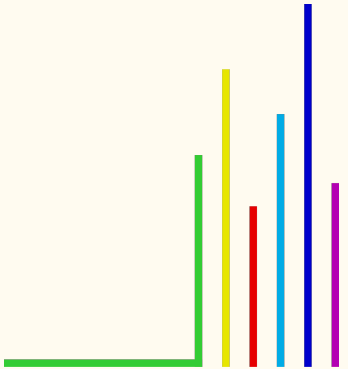
Introduction of new chairs and Status Quo

Who we are...

- 153 participants
  - More than 27 countries on 5 continents
  - Over 69 organisations
    - in research and industry
- Going strong since 2014
- Linked Data enthusiasts with different backgrounds and focus points
  - BIM
  - HVAC
  - HBIM
  - ...
- ... and now: new chairs
  - Mathias Bonduel, BEL
  - Katja Breitenfelder, GER
  - Karl Hammar, SWE
  - Anna Wagner, GER

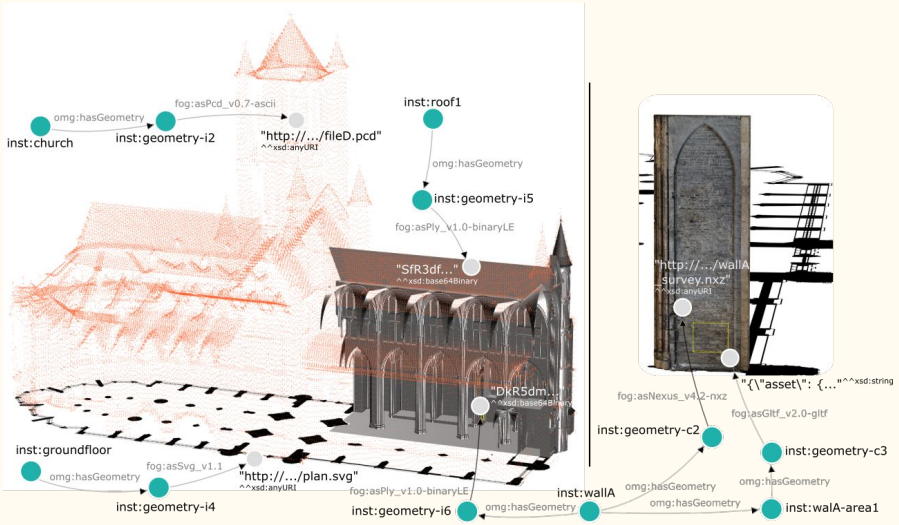
In contact with other organisations and workshops:

OGC®
Making location count.



buildingSMART

Mathias Bonduel



Background:

- M.Sc. in Civil Engineering Technology
- Final stage of PhD at KU Leuven in Ghent, BEL
- Currently looking for a job in the industry

Focus Points:

- Built heritage maintenance and restoration (classification, inspections, damage, tasks)
- BIM and Linked Data workflows
- Linking graphs and geometry, GeoSPARQL v2
- Exchange of building data during collaborative projects
- Modelling patterns for properties

Ontologies and Tools:

- FOG: File Ontology for Geometry formats (Author)
- GOM: Geometry Metadata Ontology (Author)
- OMG: Ontology for Managing Geometry (Contributor)
- DOT: Damage Topology Ontology (Contributor)
- IFCtoLBD converter (Contributor)

Katja Breitenfelder

Background:

- Engineer Architect
- Further studies “Energy and Environment”, “Conservation of Monuments and Sites”
- PhD Candidate at TU Munich, GER
- Scientific Researcher at Fraunhofer-Institute for Building Physics IBP and TU Munich, Chair of Architectural Informatics

Interests:

- Design Decision Support Systems (DDSS)
- Ontology Engineering: methodology and tools
- (H)BIM and Linked Data workflows
- Environmental sustainability assessment
- Building automation systems, IoT

Relevant experiences / ontologies / tools:

- PhD thesis (ongoing): Conceptualizing a BIM-based Design Decision Support System for the early architectural design of prefabricated timber structures
- BOT: Building Topology Ontology (contributor)

Karl Hammar

Background:

- Various consultancy since ca 2000
- PhD Linköping University, 2017
- Currently Head of the Department of Computer Science, Jönköping University

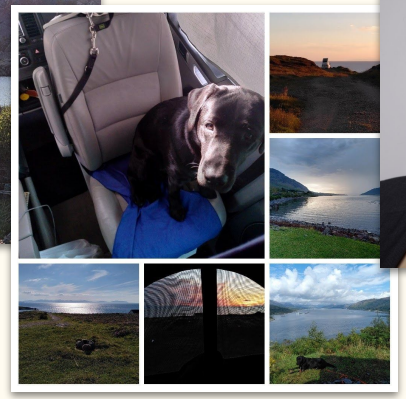
Interests:

- Ontology Engineering methodology and tools
  - Design patterns, graphical modelling, modular modelling, etc.
- Model translation and reuse
- Frameworks for at-scale IoT deployment

Relevant experiences / publications / tools:

- Blomqvist, Eva, Karl Hammar, and Valentina Presutti. "Engineering Ontologies with Patterns-The eXtreme Design Methodology." *Ontology Engineering with Ontology Design Patterns* 25 (2016): 23-50.
- The RealEstateCore Ontology (author)
- CoModIDE (author)
- Azure DTDL RealEstateCore port (author)
- ExcelRDF (author)
- OWL2OAS / OWL2DTDL (author)

Anna Wagner



Background:

- Civil Engineer
- PhD (2020) at TU Darmstadt, GER
- Senior Consultant at PROSTEP AG (PLM in Mechanical Engineering)

Focus Points:

- Product Descriptions
- Geometry on the Web
- Equation-based parametric descriptions
- Configuration Management

Ontologies and Tools:

- Building Product Ontology (Author)
- Ontology for Managing Geometry (Author)
- File Ontology for Geometry formats (Contributor)
- Geometry Metadata Ontology (Contributor)

Where are we going...?

Do we still want to become a Working Group?

Community Group (1)

- Socialising ideas and research topics
- Specification Drafts & CG Reports
- Self-determined
- Open to all, public, no fees
- Unlimited duration
- Timeline and scope may change

Transition to become a Working Group is possible and encouraged as soon as a **Community Report** has been published

Working Group (2)

- Produce deliverables
  - Standards, Reports, Software, ...
- Charter-driven
- Open to members only
- Limited duration
- Binding timeline and scope

In the past, the wish to become a Working Group to publish BOT as standard was expressed

→ First preparations have been started.

Voting procedure

... some items on today's agenda require a brief poll among participants.

Polls will be sent to internal mailing list to give every member the chance to participate.

As W3C Community Group, we want to follow the recommendation to voting.

Steps for voting (in Teams chat)

1. Moderator posts question in chat
2. Each participant can answer to that question with a number:
   - 0: Abstention
   - 1: yes / Option 1
   - 2: no / Option 2
   - 3: Option 3
   - n: Option n
3. Moderator summarises all given votes and declares chosen option

Community Report

(https://w3c-lbd-cg.github.io/lbd/UseCasesAndRequirements/)

- To introduce the CG and its focus points, use cases and deliverables
- Requirement to move towards a Working Group

- Current state:
  - Outdated Deliverables
  - Incomplete and redundant Use Cases and Requirements

Draft needs complete revision in hindsight of current focus, use cases and deliverables.

- Introduction (complete, outdated)
- Deliverables:
  - Use Case Collection
  - Best Practices for Linked Building Data
  - BOT
  - PRODUCT
  - PSET
  - GEOM
  - Alignment with other domains
- Methodology (complete)
- Use Cases (54)
  - Partially incomplete or redundant
- Requirements (7)
  - Incomplete list (54 : 7)

We should revise the use cases in any case.

Use Cases for Linked Building Data

- GitHub
  - Focus on geometry, contributed to OGC white paper
  - Pull request to add new use cases on building renovation
- Google forms
  - 11 responses
  - Unfiltered / -processed
- CG Report
  - 54 use cases
  - Partially outdated
  - Heterogeneous quality
  - Overlaps

How should we continue from here?

1. Merge documents

GitHub | Forms | Report

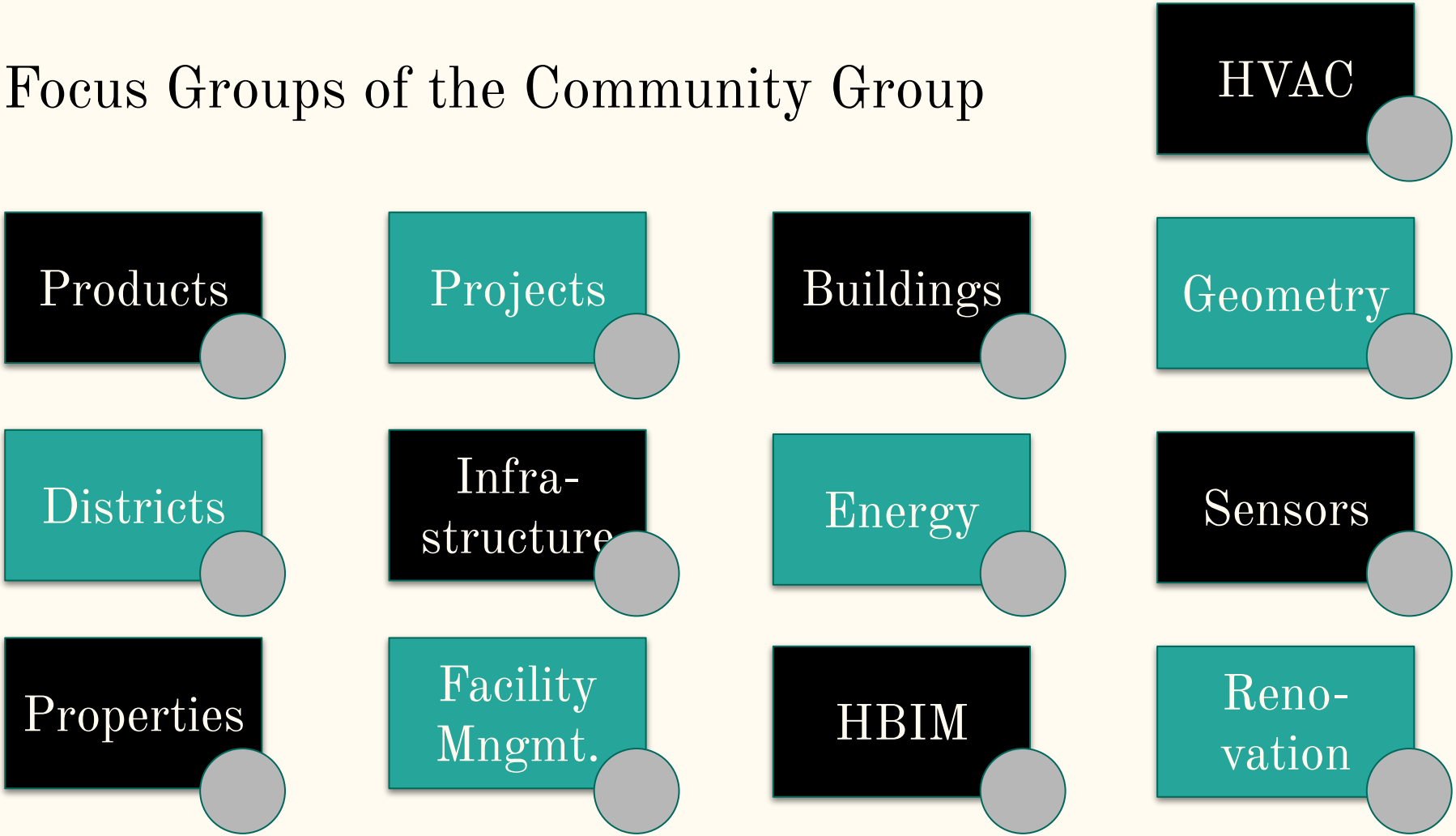
2. Contact authors if still relevant
3. Creating “focus groups”

Heads of focus groups can help processing use cases

4. Revise use cases to create homogeneous report without overlaps

Chairs merge focus group use cases together

Focus Groups of the Community Group



Bi-Weekly Meetings

- Tuesdays, 5 - 6.30 p.m. CET / CEST
  - Should we rotate weekdays?
- Contents:
  - Introduction of new participants
  - Invited speakers to present their research
  - Discussion rounds afterwards
- Minutes:
  - Open for anyone to contribute as Google Doc (link shared with invitation)
  - Published as PDF in GitHub for public access
  - Chairs responsible (rotation)
- Moderation:
  - Chairs (rotation)

Ideas for future meetings

1. Regular focus-group-related discussion and exchange calls
2. New (short) segment for Elevator Pitches of interested participants (2-4 pitches)
3. Regular (or extracurricular) PhD talk sessions

Current Action Items

- BOT .htaccess file
  - Faulty redirects from Protégé
  - Who could help here?
- GitHub Issues (BOT)
  - Currently 12 open issues
  - Should we go through them together?
- GitHub repositories
  - Should we still be linking to relevant repositories?
- Best Practices: Publishing Ontologies on the Web
  - Slides are prepared in the Appendix
- Communication
  - Do we need a forum to encourage communication between participants?
  - Which tool would be suitable? (e.g. Discourse, Slack, Discord, Gitter, ...)
- W3C Wiki
  - Currently empty
  - Do we want to fill it? If so, with what?

Best Practices for Publishing Ontologies (I)

- Create a permaId to ensure a **persistent** namespace (also see Cool URIs)
- Register your **prefix** at prefix.cc (ask your coworkers and friends to upvote it)
- Have your RDF files (pref. in multiple serialisations) **available openly and online**
  - HTML human-readable documentation helps users to understand your ideas!
  - Host it on your own server or on GitHub pages / other services
- Provide **example data and queries**
  - Utilise the SPARQL Visualizer to demonstrate your ideas on example data and show your intended workflows!
  - You can host your own SPARQL Visualizer instance or load your JSON file containing the example data

Helpful Tools, References & Tutorials

- w3id.org
  - Provides permanent identifier
  - HTTP redirects (.htaccess files) to hosted HTML documentations and RDF files
  - Allows simple migration of webspace without breaking links
- prefix.cc
  - Global selection of prefixes and their meanings
- WIDOCO or pyLODE or ...
  - Application to automatically create HTML documentation from RDF files (TTL, JSON-LD, etc.)
  - Java/Python, run from cmd or GUI
- Example documentations / demos
  - BOT (Documentation - Demo(hosted individually))
  - OMG (Documentation - Demo(loading JSON file))

Best Practices for Publishing Ontologies (II)

- **Test consistency** of the ontology with a reasoner
- Check your ontology for **pitfalls**
- Evaluate, if you provide the **minimal required metadata**
- Attach a **license** to your ontology!
- **Talk** about your ontology
  - Publication in well-known journals
  - Presentations at international conferences
  - W3C calls
- Allow **interaction with users**
  - GitHub issues, forum, contact details, etc.
- Further reading:
  - W3C Best Practices for Publishing Linked Data
  - W3C Cool URIs

Helpful Tools, References & Tutorials

- Evaluation of ontology
  - OntOlogy Pitfall Scanner (OOPS)
  - DBpedia Archivo (if registered/known)
- Discussion on minimal required metadata
  - WIDOCO
  - LOV
- Register your ontology at:
  - Linked Open Vocabulary (LOV)
  - DBpedia Archivo