

Master-Thesis:

Develop Common Ontology Integrated Standard Schema to Support Big Data Interoperability

Context:

Nowadays, individual devices and functional units will generate thousands of TB data annually and building-related systems must handle millions of TB data. Next generation building management systems will be processing amounts of heterogeneous data. Despite a number of architectures and underlying technological implementations of big data solutions for buildings' energy management have been emerged, the lack of semantic interoperability across data streams. Semantic metadata standards present a promising path to enabling interoperability by offering uniform descriptions of building resources to application developers and building operators. Several standardization efforts have arisen to address the ad-hoc nature of building metadata. Of these, Brick and Saref have seen adoption and investment from academic and industrial sources. But there are still extensions required to cover the whole Building Lifecycle. One possibility is to integrate the different schema to cover the whole data set. Another one is to extend the standard schema.

Tasks:

- Literature review of Ontology with focus on the thesis topic
- Compare standard Ontology Schema in Building domain
- Develop and implement a Ontology that can cover the building related data with the standard Schema
- Evaluate this Ontology in a suitable data set

Your Profile:

- Electrical engineering / computer science or any related field
- Knowledge about Semantic Web, Ontology, Data model are an advantage
- Interest in learning and testing

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