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wrecking ball for data silos: advancing OWL into an eagle eye for industrial data

Masterarbeit

automatically translating plant description languages into each other

Motivation

Research and standardization commitees have defined many formats for standardized data representation of industrial plants. But the adoption in industry is quite low. One main objective is that those standards define all their own "language".
If one UseCase needs data from more than one previous UseCases, the software executing it needs to understand several "languages"/data standards. It would be a huge step forward if this data can be stored in a structured data pool open to alol consumers with automated translation to the needed language.
hint: this thesis can also be written at SEW-EURODRIVE

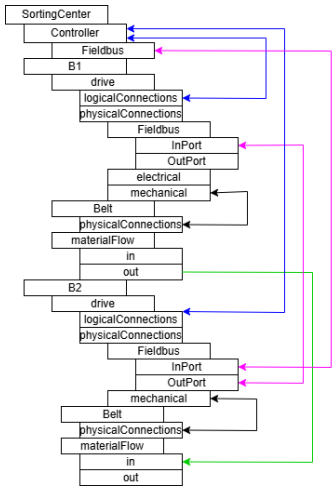

Figure 1: data model of simple industrial plant, domains in different colors

Goals

- identify identical meaning in at least two data standards
- develop a concept to merge that into a common data space
- implement a prototype
- evaluate the prototype

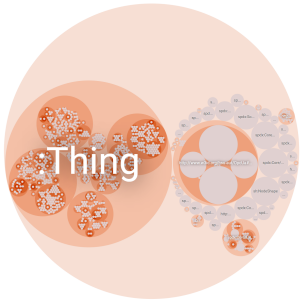

Figure 2: class overview of several ontologies, domains are separated

Helpful interests and prior knowledge

- interest in information modelling, ontologies and digital twins
- programming skills and fun in software development
- lecture digital twin engineering provides usefull prior knowledge

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