

SOLUTION FOR SOILLESS CULTURE NUTRIENT

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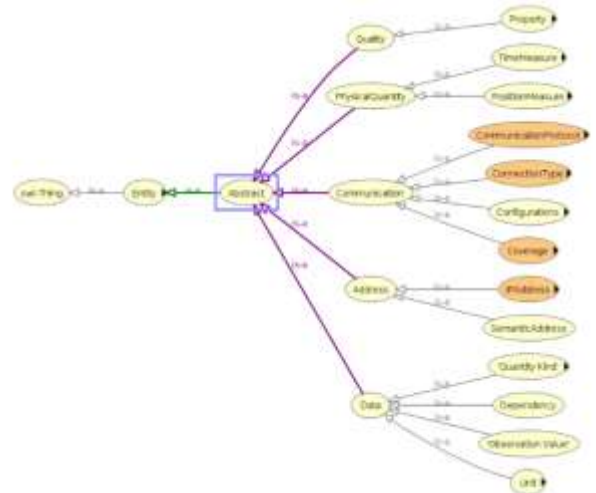
Use case description: Automated production of a nutrient solution is of paramount importance for soilless culture applications, e.g., hydroponics agriculture techniques. This can be accomplished by monitoring the environment and remote controlling a sequence of processes through heterogeneous IoT devices equipped with different sensors. These devices can use distinct communication protocols and data structuring, which increases interoperability problems. An industry 4.0 oriented ontology, based on the IEEE 1872 international standard, was development to mitigate these problems.

Use case goal: Semantic representation of heterogeneous IoT devices using unified IIoT ontology, based on well-established ontologies, in order to mitigate interoperability problems in industrial applications (data interoperability and interconnectivity).

Conclusions and Lesson Learned:

- Difficulty in creating an ontology for IIoT
- Difficulty in dealing with tools, such as Protegé
- Benefits in using ontologies for interoperability

IIoTOnTo



Implementation - Deployment



SCADA Interface

