

Master Thesis:

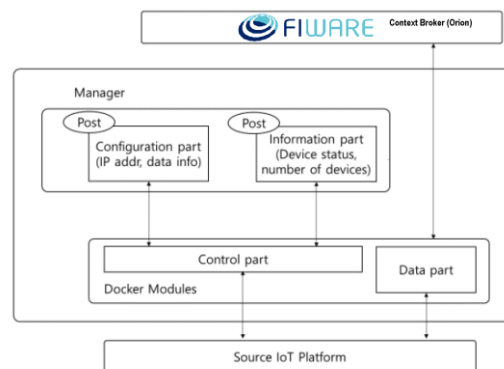
Use Case Independent Interface for Internet of Things

How Your Smart Phone Could Talk to Your Smart Meter

Keywords: Semantic web, Ontology, SAREF, IoTs.

Context:

It is aimed to develop an interface, which can be used for different use case scenario without any dependencies to the domain and can follow a unique structure. To do so, ontologies that are languages for the web can be used. Ontologies are a formal way to describe taxonomies and classification networks, essentially defining the structure of knowledge for various domains: the nouns representing classes of objects and the verbs representing relations between the objects. Ontologies resemble class hierarchies in object-oriented programming but there are several critical differences. Ontologies are meant to represent information on the internet coming from all sorts of heterogeneous data sources. By taking advantage of ontologies, we can avoid domain dependencies and can integrate heterogeneous data sources. To have a unique structure in side of this interface, SAREF as a standard reference ontology for smart appliance can be taken.



This interface would consist of integration and management block plus a gateway to information access layer. Data integration and management are supposed to be done via ontologies and SAREF standard. For information access layer, we are going to use Context Broker (Orion) that is an open source component to manage context information implemented by FIWARE. Please contact me for further information in details.

Your Tasks:

Development of a standard interface for integration and management of heterogeneous data sources that is independent to the domain and has generic structure.

Profile:

Programming skills in C++/Java and knowledge of UML are necessary.

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