Semantic Web of Things Orchestration

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Abstract
As the Internet and the World Wide Web evolve, we expect everyday devices to have the ability to interact and cooperate with each other. To enable this, it is necessary to grant these devices the ability to communicate through the IP protocol. This goal has been pursuited be several researchers in the past years and we are now evolving towards a higher layer interface with such devices through the use of the Web. It can be said that the Internet of Things, has geared towards another concept, Web of Things, where these devices are additionally given a web presence. Although both of these concepts attempt to deal with communication between devices, a lack of standardization and homogeneity of device's interface has led to an apparent failure of their objectives, with devices having no common ground with which to communicate and programmers and consumers being unable to deploy satisfactory solutions.
This thesis proposal will triy to address this state of affairs by finding a way to have devices adapt their communication with each other, negotiating ways to efficiently use other devices' services and easing the management task of the consumer.

Objectives
The goal of this proposal is to create a protocol with which even simple embedded devices are able to communicate with each other in a service oriented context. Other goals include the protocol (extension) for negotiation of data formats between services, and an automatic service mashup creator, which uses the two specified protocols to handle compatibility between services.