

Open Standards for connected objects and services interoperability

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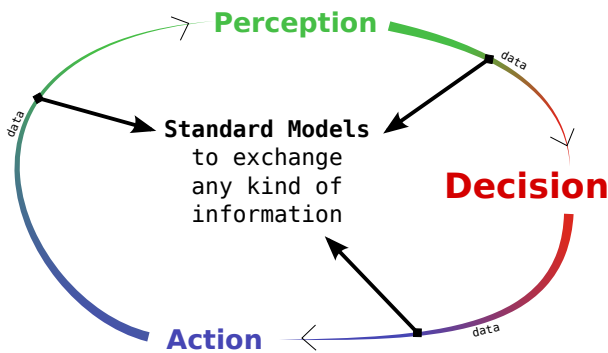
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Abstract

The freedom in the use of connected objects comes through a great interoperability between objects and services. This interoperability must be thought wisely. The W3C plays a ground role in gathering the different actors to think and build the open standards of the internet of things. The Open Web Platform already contains a lot of web technologies that now needs to be put in game for the internet of things. Our interest in the W3C Web of Things is to participate in the set-up of use cases for the Web of Things in order to eliminate the number of inconsistency between standards and their use in everyday life and also raise missing needed interactions. The role of standards for the web of things and their impacts on ambient intelligence and on users' privacy are also topics that matter to us. We believe the success of the web of things will come from the fulfilment of end-users' needs along with their acceptance.

Modelisation of actions and information - ground for interactions

In the web of things interactions can take place between objects, but also between objects and services, between services and other services, between any kind of entities without forgetting humans themselves. In order for transferred data to be understood everywhere correctly it must respect some standards, semantics and knowledge expression. They are also the grounds for any interface to connect to and interact with.



Perceive, decide and act are the three pillars of the decision loop in intelligent systems that are going to be supported by the internet of things future. An intelligent system has to perceive its environment, understand the acquired information to take decisions according to the situation and choose the best actions. For instance a home automation system can detect the following facts : everyone is sleeping, it is night and lights are on. Then use these pieces of information to take decisions and act such as : turn off lights, turn off living room heaters, lower window curtains...

Understanding the needs - Realistic scenarios

The rise of the web of things will go along the rise of useful objects. Real life scenarios is a must if we want to be able to set-up some realistic grounds on standards of communication between all entities being services, data, objects and even humans.

There are not only one path between information, a service and its end-user. Real life experiences help to reveal the need of interfaces that would have never been thought if only theorized. Experiences also help to identify interface problems with humans as, usually, the people building the systems are rarely the ones putting these needs in light.

Outcome

Standards in interactions should bring rich interconnectivity and interoperability between all entities of the web of things. New advertising formats will rise and will be able to intervene in systems with adequate business models.

From the interactions of objects should rise intelligent systems putting people into ambient intelligence. In its first step it must first reach acceptance of people. Giving people the full control of their privacy along with the explanation of what kind of data is used, when and where.

Participating in the W3C IoT workshop is a great opportunity to discuss these points and be an actor for the standardization of the web of things and web of data.

* : www.dacteev.com Dacteev is a start-up company under company creation contract with *Couveuse Altitude 31* Association, BGE Sud, Toulouse, France