One Step Towards Dynamically Programmable Things: an Implementation Using Beacons

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Abstract—The number of devices connected to the internet is constantly increasing. This large amount of devices can be used to improve people's interaction with their environment. However, this also implies an increase in the complexity when interacting with so many heterogeneous devices. Automating this process is key to keep up with this growth. This is the purpose of the People as a Service model (PeaaS), which works towards developing virtual profiles for every user in their own mobile devices under their full control. These profiles allow to establish preferences and predefined parameters, which are then used by the devices they connect to. By integrating both the information in the users' virtual profiles and the information given by the devices they connect to, we can create a context in which to make smart decisions and apply them to the devices, all of this in a decentralised way. This allows for a programmatically configuration of the devices without the need of the user's intervention. In order to put the proposal in action, we have developed a treasure hunting game as a proof of concept to bring to the spotlight the utility of an environment with programmatically adapted devices.

Index Terms—People as a Service, PeaaS, Beacons, Virtual Profile, IoT, Internet of People