

PersonisAD: Distributed, Active, Scrutable Model Framework for Context-Aware Services

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Abstract

This paper presents PersonisAD, a flexible and powerful framework for building context-aware, ubiquitous applications. The defining foundation of PersonisAD is its consistent mechanism for scrutable modeling of people, sensors, devices and places. This paper describes the PersonisAD features for supporting distributed models that have active elements which can trigger when relevant events occur. This framework makes it possible to quickly create new context-aware applications. We demonstrate the power of the framework by describing how it has been used to create two context aware applications: MusicMix which plays music based on the preferences of the people in the room; MyPlace, which informs people of relevant details of the current environment. Major contributions of this work are: the PersonisAD framework which provides a powerful and consistent means to respond to significant changes in the models of people, sensors, devices and places; support for distributed models and associated resource discovery; two applications that illustrate the power of PersonisAD.