

ABSTRACT

A key limiting factor for the pervasive community has been the difficulty developing and deploying general purpose systems. Such systems should make application development easy, support a wide range of devices and sensors, and allow users to share these resources. Designing a multi-user middleware system that allows novice users to add arbitrary hardware and software raises several challenges, such as resolution between conflicting and stale data, managing data dependencies as software and hardware is changed, and trade-offs between complexity and expressiveness in the API of such a system. We will discuss the feature set that could solve these problem, and test these features through a software implementation. We then evaluate the system after a year long deployment supporting smart office applications.