



# ATRACO

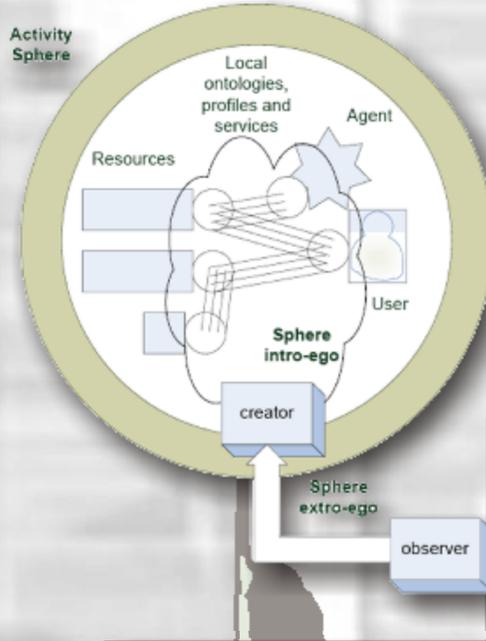
Adaptive and Trusted Ambient Ecologies



www.atraco.org

## Project baseline

The aim of ATRACO project is to contribute to the realization of trusted ambient ecologies. Interactive appliances, collaborative devices, and context aware artifacts, as well as models, services, software components are parts of ambient ecologies, which form the infrastructure that supports user activities. In ATRACO project, each activity is modelled as an activity sphere, which uses finite resources to achieve the goals of its owner, has its internal knowledge model, in the form of an ontology, and clearly marked borders, which realize the privacy requirements. The user tasks that compose an activity are supported by an ad-hoc orchestration of ubiquitous computing services offered by the ecology. The sphere adapts to different contexts by re-negotiating its borders, adopting suitable interaction modes and employing resource management models.



## Project objectives

The overall objective of ATRACO project is to lay the foundations for the development of a new range of components, architectures and guidelines that underpins the development of ambient ecologies. More specifically, the project will:

1. Develop a conceptual framework for ambient ecologies and activity spheres, realized as a core ontology.
2. Research on heterogeneity by developing and testing theories of ontology matching and alignment to achieve task based semantic integration of heterogeneous devices and services.
3. Design a service-oriented ambient ecology architecture and develop or adapt the necessary components to realize its services.
4. Research on various forms of adaptation and develop a set of intelligent agents to support adaptive task realization, interaction, activity sphere management and networking.
5. Develop a testbed application, which will be deployed in the iDorm-2 at the University of Essex and the AmInOffice Lab at CTI.

