Abstract

Ageing is a natural evolution among all living things, part of the life cycle, well known by everyone. World-wide population is being older, as a result of all social-financial aspects, leaving modern societies with less active citizens and increasing older population, which demands more focus into welfare politics. Having this reality in mind, influenced by the natural evolution of human care dependency over time, technologies can fit in this gap, as not replacing care staff shortage, but helping them to have more time for Human interactive activities.

This thesis research is one attempt towards that, by focusing on what to expect from *ICT* system context layer, from end-users perspective. Particularly in care domain, activities are progressively being shaped towards user expectation (*What they want*) and user satisfaction (*What they receive*). Using a top-down research approach design, we studied user behaviours when engaging in daily-life activities, in a nursing home environment, relating users with activity definition, and following System context-awareness challenges.

Two system approaches were deployed, one focus on understanding users behaviours (action), based on context-aware information extraction, and the second system, evolving from the first, relating end-users social interaction with resource optimization (coordination).

At last, various problems are discussed in the perspective of Resident and Care Staff, as being the principal service provider, inside a nursing home. Context-aware, activity definition and user profile are presented from live experiments, with following participatory user feedback, pointing for future pervasive solutions considerations.