

B. JEAN-BART, M. DUBIELZIG, A. MARCO. *OSGi4AMI: An AAL ontology used both for accessible user interfaces and for services framework*. *Gerontechnology* 2010;9(2):223; doi:10.4017/gt.2010.09.02.256.00

Purpose This paper describes an open Ambient Assistive Living (AAL) architecture developed during the last 3 years by the European research and development project Mainstreaming on Ambient Intelligence (MonAMI). The overall objective of the MonAMI was to investigate, specify, validate and promote an approach based on mainstream technologies so that AAL applications can be deployed in a cost effective manner. MonAMI services include accessible user interfaces that are easily adaptable, to boost the acceptance of the system by its beneficiary. **Method** The resulting, open service, platform enables service providers to develop new, innovative AAL services to help disabled and, older and disabled, people live at home more easily. The service platform consists of two main functional blocks: (i) a set of AAL services which run on an OSGi framework¹, and (ii) the Human Machine Interfaces blocks (HMI) which runs on a Universal Control Hub (UCH). The UCH is an HMI server and implements the ANSI standard Universal Remote Console (URC)². The UCH enables the development and execution of multiple, accessible and flexible HMI clients, on different targets such as Touch Screen and iPhone, which are adapted to the user (e.g. older person or caregiver). **Results & Discussion** The proposed architecture is based on an ontology of devices and services that are used by the developers of both services and HMIs. This ontology, called OSGi4AMI, provides the foundation for the set of Java interfaces on the service platform and for the resource sheets which describe the data exchanged with the HMI. This ontology creates a strong separation between the software applications and the environment (e.g. web server, home devices, HMIs). As a result, the business environment for developing services is simplified. Service programmers do not have to adapt their code to specific devices and technologies. Moreover, a set of AAL services have already been developed and tested in the domains of home control, ambient monitoring, and person monitoring. The open platform defined by OSGi4AMI ontology intends to become an open standard for AAL architecture of services. This contribution covers the following topics: (i) An introduction, describing the investigation phase, where the rationale of the work was elaborated, from the user perspectives. (ii) A presentation of the *OSGi4AMI* set of interfaces. How this design pattern allows a common ground for service developers is explained in detail. (iii) A depiction of some key examples of services to illustrate the approach from the service provider perspective. (iv) A description of the HMI architecture based on the URC ANSI standard is described. (v) A presentation of possible future perspectives.

References

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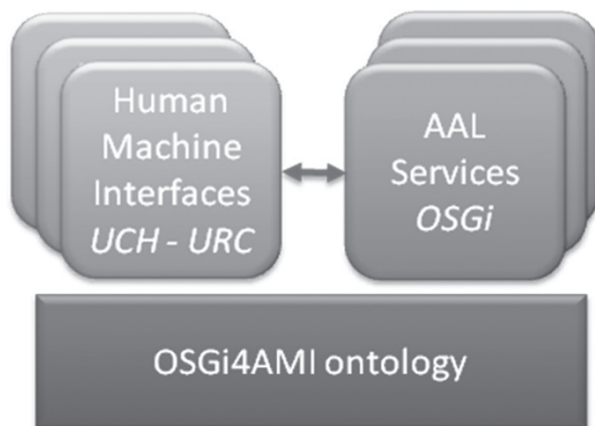


Figure 1. *OSGi4AMI ontology Human Machine Interfaces and AAL Services*