



| | | |
|--|---|--|
|  <p>SEVENTH FRAMEWORK PROGRAMME: PRIORITY 7.1B LARGE SCALE INTEGRATING PROJECT (IP)</p> | IP project number 247950 Project duration: February 2010 – February 2014 Project coordinator: Joe Gorman Project Coordinator Organisation: SINTEF, Norway Strategic Objective: 7.1.b website: www.universaal.org | |
| |  Universal Open Architecture and Platform for Ambient Assisted Living | |
| <p>Document Type: “Deliverable:” Item Appearing in “List of Deliverables in DoW with delivery date shown in bold “Supplementary Report” As “Deliverable”, but delivery date <i>not</i> shown in bold. These documents are formally internal to the consortium, but can be delivered on request.</p> | X | Project Deliverable, with independent sub-parts. <i>Each sub-part forms a coherent whole in its own right, and has been edited and reviewed independently. The sub-parts are integrated in this document, to form the deliverable as a whole.</i> |
| | | Project Deliverable (single document, no sub-parts). |
| | | Sub-part of a Project Deliverable. |

| Document Identification | | | |
|--------------------------------|---------------|------------------------|---|
| Deliverable ID: | D2.1-A | Deliverable title: | universAAL Execution Environment installation packages and hardware abstraction layer |
| Release number/date: | | Release 1 / 07-04-2011 | |
| Checked and released by: | | Sergio Guillén/ITACA | |

| Key Information from "Description of Work" (from the Contract) | |
|---|---|
| Deliverable Description | <i>Software that enables easy setup and deployment of the universAAL execution environment. Provides a uniform way for AAL services to access the hardware layer.</i> |
| Dissemination Level | PU=Public |
| Deliverable Type | P = Prototype |
| Original due date (month number/date) | Month 11 / 31.Dec.2010 (changed in the first project review) |

| Authorship & Reviewer Information | |
|--|--|
| Editor (person/ partner): | Saied Tazari / Fh-IGD |
| Partners contributing | CNR-ISTI, ENT, Fh-IGD, FZI, IBM, ProSyst, TSB, TUW / USIEG |
| Reviewed by (person/ partner) | Salvatore Flavio Pileggi/ITACA |

Release History

| Release number | Date issued | Milestone * | eRoom version | Release description /changes made |
|----------------|-------------|-----------------------|---------------|--|
| 1 | 13.01.2011 | PCOS approved | V1 | Initial version containing the structure an outline of content |
| 1 | 22.02.2011 | Intermediate approved | | Intermediate approved for D2.1 on Software and wiki pages |
| 1 | 22.03.2011 | External proposed | V2, V3 | Small changes in different sections |
| 1 | 31.03.2011 | External revised | V4 | Typo-level corretrcions, adapted this table and the cover page |
| 1 | 05.04.2011 | External approved | V5 | External approved |
| 1 | 07.04.2011 | Resleased | V6 | Technical manager release |

* The project uses a multi-stage internal review and release process, with defined milestones. Milestone names include abbreviations/terms as follows:

- PCOS = "Planned Content and Structure" (describes planned contents of different sections)
- Intermediate: Document is approximately 50% complete – review checkpoint
- External For release to commission and reviewers;
- proposed: Document authors submit for internal review
- revised: Document authors produce new version in response to internal reviewer comments
- approved: Internal project reviewers accept the document
- released: Project Technical Manager/Coordinator release to Commission Services

universAAL Consortium

universAAL (Contract No. 247950) is an Large Scale Integrating Project (IP) within the 7th Framework Programme, Priority 7.1.b (ICT & Ageing). The consortium members are:

| | |
|---|---|
| STIFTELSEN SINTEF (SINTEF, Project Coordinator) Contact persons: Joe Gorman Email: joe.gorman@sintef.no | UNIVERSIDAD POLITECNICA DE VALENCIA (ITACA, Technical manager) Contact person: Laura Belenguer Querol Email: laubeque@upvnet.upv.es |
| AUSTRIAN INSTITUTE OF TECHNOLOGY (AIT) Contact person: Sten Hanke Email: sten.hanke@ait.ac.at | CONSIGLIO NAZIONALE DELLE RICERCHE (CNR-ISTI) Contact person: Francesco Furfari Email: francesco.furfari@isti.cnr.it |
| CENTRE FOR RESEARCH AND TECHNOLOGY GREECE (CERTH) Contact person: Nicos Maglaveras Email: nicmag@med.auth.gr | FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V (Fh-IGD) Contact person: Saied Tazari Email: saied.tazari@igd.fraunhofer.de |
| ERICSSON NIKOLA TESLA (ENT) Contact person: Ivan Benc Email: ivan.benc@ericsson.com | IBM ISRAEL – SCIENCE AND TECHNOLOGY LTD. (IBM) Contact person: Yardena Peres Email: peres@il.ibm.com |
| FORSCHUNGSZENTRUM INFORMATIK AN DER UNIVERSITAET KARLSRUHE (FZI) Contact person: Andreas Schmidt Email: Andreas.Schmidt@fzi.de | PHILIPS ELECTRONICS NEDERLAND B.V. (PHILIPS) Contact person: Milan Petkovic Email: milan.petkovic@philips.com |
| IMPLEMENTAL SYSTEMS SL (IMPLEMENTAL) Contact person: Jordi Valles Email: jordi.valles@implementalsystems.com | REGION SYDDANMARK (RSD) Contact person: Casper Dahl Marcussen Email: cma@medcom.dk |
| PROSYST SOFTWARE GmbH (PROSYST) Contact person: Kai Hackbarth Email: k.hackbarth@prosynt.com | TECHNISCHE UNIVERSITAET WIEN (TUW) Contact person: Roman Obermeisser Email: romano@vmars.tuwien.ac.at |
| TSB SOLUCIONES TECNOLOGICAS (TSB) Contact person: Juan-Pablo Lázaro-Ramos Email: jplazaro@tsbtecnologias.es | VDE VERBAND DER ELEKTROTECHNIK ELEKTRONIK INFORMATIONTECHNIK EV (DKE) Contact person: Henriette Boos Email: henriette.boos@vde.com |
| UNIVERSIDAD POLITECNICA DE MADRID (UPM) Contact person: cvera@lst.tfo.upm.es Email: cvera@lst.tfo.upm.es | |

1 About this deliverable

Deliverable 2.1 mainly consists of software that is supposed to create the basic collaborative environment based on which different resources embedded within or otherwise distributed throughout an AAL space can communicate on a secure basis. The development of this software is organized within Task 2.1 “Create the universAAL Execution Environment and Hardware Abstraction Layer”. D2.1 also consists of a report that provides an overview of the work done in Task 2.1 towards the development of the targeted software.

The software being developed within Task 2.1 is a core part of the runtime support (cf. Figure 1) that provides a common API for the development of AAL applications running within AAL spaces, i.e., the part that is called “universAAL Execution Environment” in the project DoW. It additionally provides support for binding devices that do not provide the envisioned common API per se (e.g., legacy and non-universAAL-aware devices) which corresponds to the part that is called “Hardware Abstraction Layer” in the project DoW. Finally, it defines the general policies regarding the system security and enroots the relevant parts of those policies in this core part of the runtime environment, whereas the remaining part of these policies are supposed to be realized within Task 2.2.

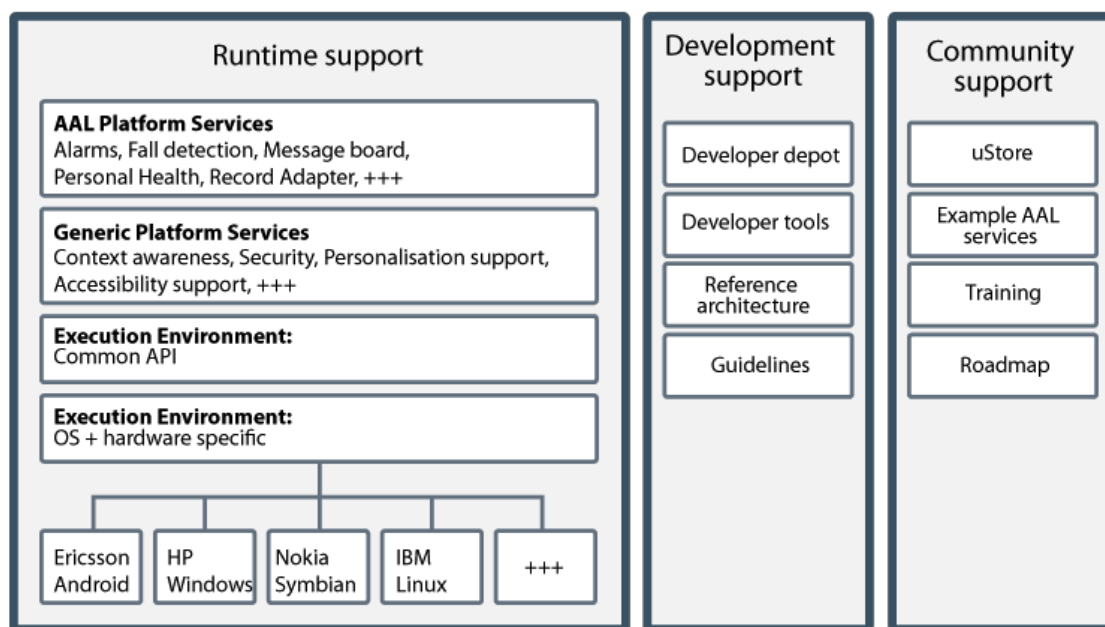


Figure 1: The scope of the development within universAAL

According to D1.3-B (the first version of the universAAL reference architecture) the common API is provided by a piece of software called *middleware* that has a footprint on all “AAL-aware” devices. For this reason, several versions of the middleware may exist, one for each supported native execution environment. As already stated in D2.3, the default native execution environment in universAAL is supposed to be OSGi. Depending on the availability of resources, the same software might be ported onto Android native EE, and if possible still onto .Net Compact Framework.

The work for binding legacy and non-universAAL-aware devices is supposed to include (1) a design pattern for binding special-purpose devices, (2) a set of protocol gateways as examples for the protocol-specific part of the design pattern (shared across all devices reachable via those protocols), and (3) a set of device wrappers for each of the protocol gateways as examples for the final binding of special-purpose devices.

The security policies define how the above two solutions are supposed to cover related security requirements. Other requirements and design decisions will be specified for the other components to be provided within Task 2.2.

Four versions of this deliverable are planned at project months 11¹, 18, 27, and 36. Roughly speaking, there will be two major sets of software modules to be delivered by D2.1. Table 1 shows how the different versions of these two sets are scheduled for delivery.

Table 1: The overall schedule of D2.1

| | M11 | M18 | M27 | M36 |
|--------------------------------|----------|----------|---------|-------|
| 1 st set of modules | α | β | final | |
| 2 nd set of modules | | α | β | final |

2 Relationship to other universAAL deliverables

The deliverable is a central result of the universAAL project that involves all the other work packages, especially the following universAAL deliverables:

- D1.2 provides the technical requirements relevant for the provision of the reference implementation within WP2.
- D1.3 provides the architectural design based on which software is developed within WP2.
- D2.2 provides software that has to run on top of software delivered by D2.1.
- D2.3 is supposed to plan integration tests based on the software delivered here. Work towards D2.1 is organized in the spirit of the strategies defined in D2.3.
- D2.4 provides the handbook for developers using the software provided here.
- All deliverables of WP3 will have to consider the specifications and APIs provided by this deliverable.
- Software developed in WP4 has to build on top of software delivered here.
- Evaluation, training, demonstration, standardization, dissemination in the work packages 5 to 9 will involve both the software and the related knowledge from this deliverable.

3 Structure of the Deliverable

This deliverable is split into several independent sub-parts. Each of these was developed as a standalone item that is useful in its own right. The deliverable production process (authorship, editing, internal review) was applied independently to the various sub-parts. Where necessary, coordination activities at WP level were carried out to ensure consistency between the different sub-parts. The structure is as follows:

Part I: “Task 2.1 Report”. This document provides an overview on the work done in Task 2.1 and summarizes both the intermediate results and the future plans.

¹ The first version of D2.1 was originally planned to be delivered by the project month 9. During the first project review, it was decided to be postponed to M11.

Part II: “The Specifications”. This document includes the specification of the software delivered by D2.1, per expert group, building block, and software artefact. It exists in terms of hierarchies of Wiki pages under <http://depot.universaal.org/wiki/>. Information about how to access these pages is included in Part I.

Part III: “The actual Software”. It consists of the source code of the alpha releases of the software artefacts delivered by D2.1. The software artefacts are available in the SVN repositories under <http://depot.universaal.org/svn/>. Part I includes information about how to access these repositories.