



ReAAL

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Support and training periodical report

[Internal Deliverable 2.1C, Revision 1.0]

Key Information from the DoW

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Type Report

Security Public

Description:

A periodical summary of the statistics from activities in T2.2 containing also the latest directory of available resources.

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Versioning and contribution history

Version	Date	Author	Partner	Description
0.1	27/11/2015	Álvaro Fides	UPVLC	Updated Intro sections from previous version.
0.2	15/12/2015	Álvaro Fides	UPVLC	Updated section 2.
0.3	07/01/2016	Francesco Potortì	CNR	Updated section 4.
0.4	11/01/2016	Álvaro Fides	UPVLC	Updated section 3.
0.5	12/01/2016	Alejandro Medrano	UPM	Updated section 4.
0.6	13/01/2016	Michele Girolami	CNR	Updated section 4.
0.7	15/01/2016	Francesco Potortì	CNR	Revision
1.0	18/01/2016	Helmi Ben Hmida	Fhg-IGD	Official release

Executive Summary

This deliverable follows the same structure of D2.2, since it is an update on the status of the activities defined therein: Platform support framework, Training framework, and Open source strategy.

After a description of the few updates in the support framework, a set of statistics of the status on all the different issue trackers is presented, followed by a list of all issues opened and updated within the period of analysis of this version. In addition, some statistics are shown for the whole duration of the project.

There were only minor updates on the Training framework. These are followed by a list of all available sources of training materials set up by different tasks in ReAAL. A description of the particular training meetings provided.

Finally the activities maintaining the Open Source community around the platform are described, including some possible next steps.



Table of Contents

1.	About This Document	5
1.1.	Deliverable context.....	5
1.2.	Version-specific notes.....	6
2.	Platform support framework.....	7
2.1.	Framework updates	7
2.2.	Status report	7
2.2.1.	Tracker status	7
2.2.2.	Overall Statistics	13
3.	Training framework.....	16
3.1.	Framework updates	16
3.2.	Status report	16
3.2.1.	Materials status	16
3.2.2.	Activities status	17
4.	Open source strategy	19
4.1.	Status report	19
4.1.1.	Mailing-list	19
4.1.2.	Governing Board	19
4.1.3.	Website	19
4.1.4.	GitHub	20
4.1.5.	Future plans for Open Source	20

1. About This Document

The purpose of this deliverable is to report updates in the frameworks defined in deliverable D2.2 for Support, Training and Open source, if any. A description of the work that has been carried out in the scope of T2.2 for these framework is also reported, with special emphasis on the issues reported in the trackers.

1.1. Deliverable context

The fields in this table are a variation of those in D2.2, since ID2.1a is a periodic update on the activities planned and defined in D2.2.

Project item	Relationship
Objectives	O3: The objective refers to setting up the Developer Depot, training courses, coaching and technical support, the status of which are reported here.
Exploitable results	Res 5: It explicitly names the support and training framework, whose reporting is the purpose of this deliverable. Res 6: The monitoring mentioned in the result is reported for tracking and support here. Res 7: Contributions to the knowledge portal may come from the resolution of problems thanks to the resolved support issues.
Work plan	WP2 T2.2: Task to which the deliverable belongs. WP2 T2.3, WP3 T3.2, WP4: Technical development support is provided to all these tasks. WP3 T3.3, WP4: Training framework schedules and materials to these tasks are reported here. WP5: Reports of technical support issues can be used for the reports and contents of this work package.
Milestones	MS2: After milestone 2 “Ready for porting applications” the activities in trackers and training are periodically summarized in this report.
Deliverables	D2.2: Deliverable 2.2 specifies the training, tracker and open source frameworks and schedules, whose third period of reporting is documented in this document ID2.1b.
Risks	Rk3, Rk6, Rk8: These risks are related to finding potential problems during the development or usage of the platform. Technical support framework should help prevent this or at least solve it promptly.

1.2. Version-specific notes

This Internal Deliverable is the third version (c) of three (a, b, c). The reports included here refer to the work carried in the scope of the Support, Training and Open Source framework defined in D2.2 in the period comprised between February 1st, 2015 and January 1st, 2016.

Notice that the previous version (b) of this Internal Deliverable reported that the current version (c) was supposed to cover until November 1st 2015, but with the current amendment that period ends on January 1st 2016.

2. Platform support framework

2.1. Framework updates

The migration of the source code to GitHub brought the opportunity to do something with the available documentation wikis. Documentation wikis have been pointed out as one of the weakest points for accessing the universAAL platform by developers.

With the wikis now hosted in GitHub, they were reorganized according to the new distribution of repositories in the GitHub page, with better references, and an attempt to remove outdated and unused links and content. To make sure no outdated links are followed from any legacy content (for instance, old deliverables or missed uncorrected links), the old wiki pages previously hosted in the GForge site have been removed.

The Issue Tracker system however has not changed, and is still hosted at GForge for the duration of the ReAAL project, so that existing users don't need to change the way they report issues. After the project is done, in order to maintain the open source community, the Issue Tracker will finally be migrated to GitHub, together with whatever open items are left.

2.2. Status report

This period saw the release of two versions of the platform: 3.3.0 and 3.4.0. Each included new features and several bug fixes, many of which were identified in the Issue Tracker, whose status during the period is reported here. Being this the last version of this Internal Deliverable, an additional report is included at the end of this section with some overall figures of all the trackers since the beginning of the project.

2.2.1. Tracker status

Official track of bugs, requests and other issues is maintained through the different issue trackers of all the subprojects in GForge. The report in this section will cover all issues in every subproject tracker that were opened between the end of the period reported in the previous version (January 30th 2015), and the elaboration of this deliverable (December 15th 2015).

To give an overview of how the issue tracking performed, some basic statistics have been calculated:

During this period, 18 new items were opened, and 28 items were closed (also from previous periods). At the end of the current period the trackers now show a total of 31 items that still remain open. This is however counting all trackers (including To-Do, feature requests...). Focusing only on bugs and support, there are 14 items still open. Compared to the previous period, the numbers have decreased significantly (48 opened and 33 closed, to an overall 43 remaining open).

Average time needed for closing reported items (bugs and support) in this period was 177 days. In the previous period this average was 52 days, which marks a considerable increase. This is due to the effort put into closing long-standing open issues for the final release version (e.g. counting only items created during this period, the average drops to 41 days).

The following sections report the overall details of the items in all the trackers with content for the analysed period. Only the short description of each item is included. For more details on each of the items please proceed to the link included in each subsection.

Android

All issues reported under the subproject “Native Android” are available at:

<http://forge.universaal.org/gf/project/android/tracker/>

This subproject is in charge of the port of the Middleware into Android OS.

To do

ID	Priority	Submitter	Assignee	Opened	Closed
Native Android: Metadata generation tool					
402	5	Alvaro Fides	Alvaro Fides	26/05/2014	NO

Bugs

ID	Priority	Submitter	Assignee	Opened	Closed
No uAAL connection to other instances while in WiFi without Internet access in 5.0					
463	3	Alvaro Fides	Alvaro Fides	17/04/2015	NO
Send OK result to GCM on receiver					
464	4	Alvaro Fides	Alvaro Fides	27/05/2015	29/05/2015
MismatchSenderId when server app sends messages to android uaal app					
465	3	Alvaro Fides	Alvaro Fides	29/05/2015	30/05/2015
Multiple increasing receptions of Service Calls from R-API (GCM)					
468	3	Alvaro Fides	Alvaro Fides	24/06/2015	07/07/2015
Float and Short datatypes produce errors in Android MW intents.					
469	4	Alvaro Fides	Alvaro Fides	24/06/2015	24/06/2015
Exceptions and unstable behaviour after restarting uAAL					
479	2	Alvaro Fides	Alvaro Fides	15/10/2015	15/10/2015

Feature Requests

ID	Priority	Submitter	Assignee	Opened	Closed
Prevent file writing error message when starting uAAL app					
462	4	Alvaro Fides	Alvaro Fides	17/04/2015	30/07/2015

Context

All issues reported under the subproject “Context” are available at:

http://forge.universaal.org/gf/project/uaal_context/tracker/

This subproject is in charge of the context-awareness modules and managers.

Feature requests

ID	Priority	Submitter	Assignee	Opened	Closed
Update of ontology owl files					
384	4	Alvaro Fides	Alvaro Fides	29/10/2013	NO
static CHe information base					
386	5	Alejandro Medrano		18/11/2013	NO
Add a Service to CHe to add, retrieve, change, or delete a single RDF instance.					
476	4	Alejandro Medrano	Alvaro Fides Alejandro Medrano	12/09/2015	NO

Bugs

ID	Priority	Submitter	Assignee	Opened	Closed
CHE causes JVM Heap memory overflow by too many blocked threads waiting for monitor entry of SesameBackend.storeEvent					
474	2	Saied Tazari	Alvaro Fides	01/09/2015	NO
Logical issues while modelling the Device ontology release 3.4.0					
480	1	Helmi Ben Hmida	Saied Tazari Alvaro Fides Carsten Stockl�w Alejandro Medrano Helmi Ben Hmida	25/10/2015	26/10/2015

Middleware

All issues reported under the subproject “Middleware” are available at:

<http://forge.universaal.org/gf/project/middleware/tracker/>

This subproject is in charge of the Middleware core modules.

Bugs

ID	Priority	Submitter	Assignee	Opened	Closed
analysis of requirements N-ARCH-1 and N-COMM-1					
394	2	Michele Girolami	Michele Girolami	20/05/2014	26/05/2015
Real Role of Nodes					
423	3	Michele Girolami		24/07/2014	NO
Implement AAL Space discovery by means of the communication connector					
424	3	Michele Girolami	Federico Volpini	24/07/2014	26/02/2015
Re-arrange configuration file of the MW					
427	3	Michele Girolami		01/08/2014	NO
Bus Model Thread does not stop when closing					
430	5	Alvaro Fides	Carsten Stockl�w	29/08/2014	06/09/2015
uAALBundleContainer fetchSharedObject with listener not working as expected					
435	1	Alejandro Medrano	Carsten Stockl�w	15/09/2014	NO
When a Callee throws an exception (typical rookie mistake) the bus, or at least the caller is locked for ever.					
443	4	Alejandro Medrano	Carsten Stockl�w	20/10/2014	06/09/2015

Support

ID	Priority	Submitter	Assignee	Opened	Closed
Infinite loop between non-connecting instances					
404	4	Alvaro Fides	Stefano Lenzi	26/05/2014	04/08/2015
Inconsistent serialize>parse>serialize behavior of the data.serialization					
460	4	Alvaro Fides	Stefano Lenzi	29/01/2015	04/08/2015
Does timed_out service response work across instances?					
472	3	Alvaro Fides	Carsten Stockl�w	07/07/2015	NO

Feature requests

ID	Priority	Submitter	Assignee	Opened	Closed
Enable a way to let the user accept/reject joining how a node to a space					
361	3	Stefano Lenzi	Stefano Lenzi Carsten Stockl�w	18/09/2013	NO
Is it possible to install reasoner and/or ASOR script as application?					
408	4	Alvaro Fides	Stefano Lenzi	03/06/2014	NO
dynamic cases and Automatic Coordinator selection for service bus					
425	4	Alejandro Medrano	Alejandro Medrano Carsten Stockl�w	30/07/2014	NO
Use pooled threads whenever possible in comm module					
441	4	Alvaro Fides	Stefano Lenzi Michele Girolami	01/10/2014	NO
Default uAALnetwork randomisation					
467	5	Alejandro Medrano		23/06/2015	NO
ServiceCall does not implement Matchable					
473	1	Alvaro Fides	Carsten Stockl�w	20/07/2015	23/07/2015

Ontologies

All issues reported under the subproject ‘‘Ontologies’’ are available at:

<http://forge.universaal.org/gf/project/ontologies/tracker/>

This subproject contains the basic (not app-specific) ontologies that can be used.

Bugs

ID	Priority	Submitter	Assignee	Opened	Closed
get and set Resource Label are not synchronized correctly					
379	4	Alejandro Medrano	Carsten Stockl�w	13/10/2013	19/08/2015
Private setters iin HealthMeasurement ontology					
458	4	Alvaro Fides	Alvaro Fides	21/01/2015	26/05/2015
Wrong properties in BloodPressure set/getters					
459	4	Alvaro Fides	Alvaro Fides	23/01/2015	26/05/2015
Ont.device.extra uses the same name of common classes as ont.device					

470	4	Alvaro Fides	Alvaro Fides	30/06/2015	30/06/2015
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To do

ID	Priority	Submitter	Assignee	Opened	Closed
Specialize hasValue properties in ont.device					
478	4	Alvaro Fides	Alvaro Fides	28/09/2015	05/10/2015

Remote interoperability

All issues reported under the subproject “Remote Interoperability” are available at:

<http://forge.universaal.org/gf/project/rinterop/tracker/>

This subproject is in charge of the gateways that provide remote connections.

Requests

ID	Priority	Submitter	Assignee	Opened	Closed
Client library for calling the Remote API					
439	3	Alvaro Fides	Alvaro Fides	24/09/2014	NO

Bugs

ID	Priority	Submitter	Assignee	Opened	Closed
Null-scope Multitenant GW error when starting in client mode					
448	1	Alvaro Fides	Stefano Lenzi	17/11/2014	27/07/2015
Multitenant GW 3.2.0+ waiting forever to read a message from client GW					
450	2	Alvaro Fides	Stefano Lenzi	21/11/2014	31/07/2015
Concurrent handling of REGISTER messages in R API lead to DB error					
466	5	Alvaro Fides	Alvaro Fides	10/06/2015	30/07/2015
Security restrictions in GW fail if using empty lists (or non-matchable Resources)					
471	3	Alvaro Fides	Alejandro Medrano	02/07/2015	27/07/2015
String's special characters not visible when received from R-API into Android app.					
475	5	Alvaro Fides	Alvaro Fides	02/09/2015	02/09/2015

Security

All issues reported under the subproject “Security” are available at:

<http://forge.universaal.org/gf/project/uaalsecurity/tracker/>

This subproject is in charge of the security modules that can be used by applications.

Feature requests

ID	Priority	Submitter	Assignee	Opened	Closed
add authorisation definition and checking services					
406	2	Alejandro Medrano		29/05/2014	NO

Support

All issues reported under the subproject “Support” are available at:

<http://forge.universaal.org/gf/project/support/tracker/>

This subproject plays the role of a central hub where any issue can be addressed when no other subproject can be guessed. It also deals with maintaining sample applications and support libraries.

The support subproject also handles one special case: The Puglia pilot has several different parties as developers for the pilot, introducing the concept of “Associated Vendor”. For this reason a special sub-tracker was set up to provide dedicated training and support to them. There were no updates in that tracker during the period reported in this deliverable.

Support

ID	Priority	Submitter	Assignee	Opened	Closed
How to define equivalence in the Ontology class					
451	5	Alvaro Fides	Carsten Stockl�w	01/12/2014	NO
R-API: Google Cloud Messaging for Android not found					
456	2	J�rg Draeger	Alvaro Fides	12/01/2015	26/05/2015

To do

ID	Priority	Submitter	Assignee	Opened	Closed
automatic launching script for karaf autostart					
461	5	Alejandro Medrano	Alejandro Medrano	30/01/2015	06/02/2015

Tools

All issues reported under the subproject “Tools” are available at:

<http://forge.universaal.org/gf/project/uaaltools/tracker/>

This subproject is in charge of the plugin tools of the AAL Studio.

Bugs

ID	Priority	Submitter	Assignee	Opened	Closed
Verification too strict					
412	4	Alejandro Medrano		13/09/2013	NO
AALStudio Ontology Creation tool requires Papyrus 0.7.3, but no longer available					
357	3	Alvaro Fides		26/06/2014	NO
Issue transforming .OWL files into .Java files					
413	3	Pablo Coronado	Alvaro Fides	16/07/2014	26/05/2015
Ontology Wizard creates namespace without .owl suffix					
433	5	Alvaro Fides		04/09/2014	04/08/2015

Feature requests

ID	Priority	Submitter	Assignee	Opened	Closed
Update PaxRunner with latest Felix Framework					
354	3	Carsten Stockl�w	Konstantinos Giannoutakis	12/09/2013	NO
Ontologies from the Wizard do not need to be bundles					
437	5	Alvaro Fides		19/09/2014	NO

User interface

All issues reported under the subproject “User interface” are available at:

http://forge.universaal.org/gf/project/uaal_ui/tracker/

This subproject is in charge of the user-interface modules and managers.

Bugs

ID	Priority	Submitter	Assignee	Opened	Closed
Alert String is intended for erroneous input not just missing.					
376	5	Alejandro Medrano	Alejandro Medrano	09/10/2013	NO
Web handler Script vulnerability					
381	4	Alejandro Medrano	Alejandro Medrano	28/10/2013	NO
Swing handler forces to choose a select1					
382	5	Alejandro Medrano	Alejandro Medrano	28/10/2013	NO
Dialog Cut (with complete info) work only when moving from Coordinator to peer					
388	3	Alejandro Medrano	Alejandro Medrano	20/01/2014	NO
Change User location subscriber architecture in UI.DM					
399	4	Alejandro Medrano	Alejandro Medrano Andrej Grguric	20/05/2014	NO

Feature requests

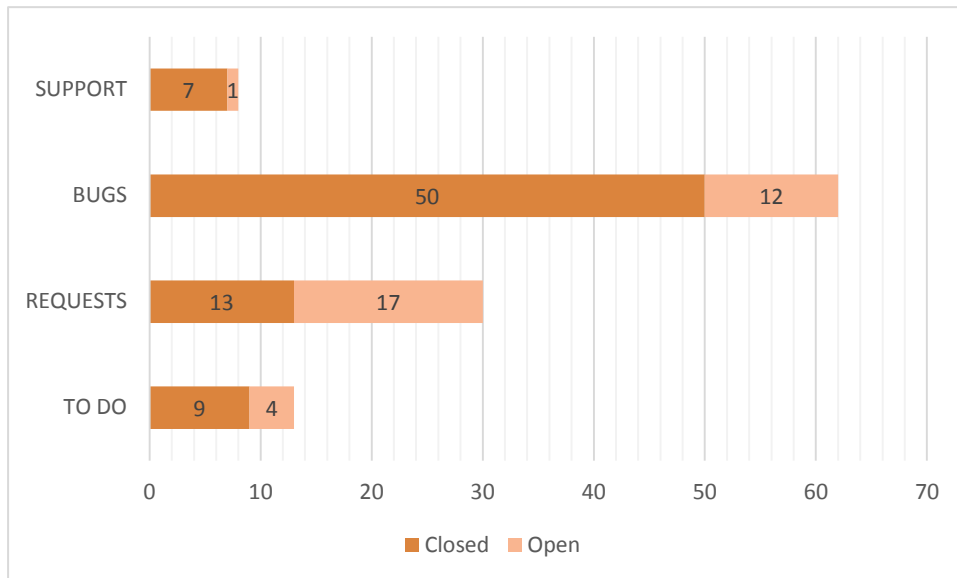
ID	Priority	Submitter	Assignee	Opened	Closed
Make Recommendations switchable in gui.swing					
364	4	Alejandro Medrano	Alejandro Medrano	20/09/2013	NO
contextualUpdate					
366	3	Alejandro Medrano	Alejandro Medrano	20/09/2013	NO
Trigger happy					
367	1	Alejandro Medrano	Alejandro Medrano	20/09/2013	NO
New uAAL UI Strategy					
398	5	Alejandro Medrano	Alejandro Medrano	20/05/2014	NO

2.2.2. Overall Statistics

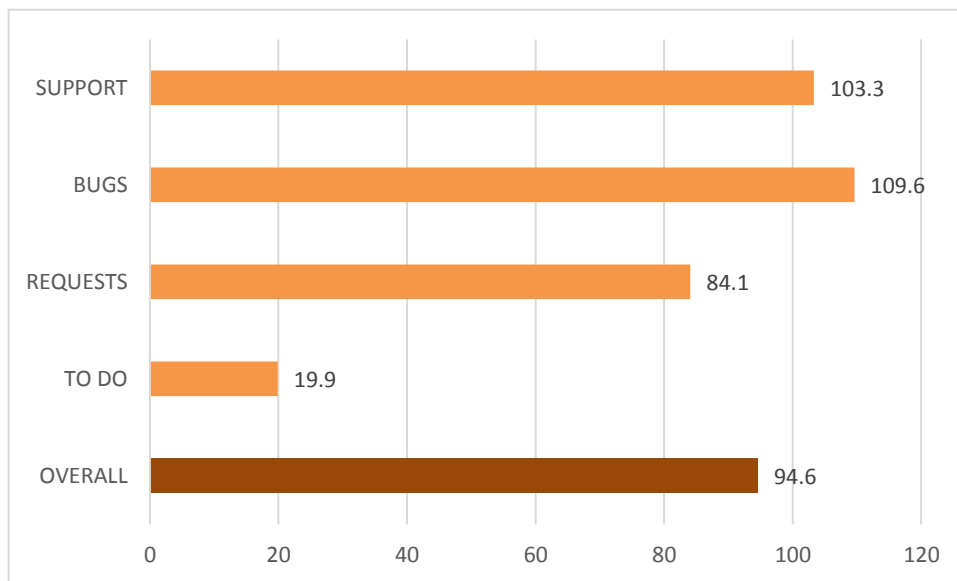
The following stats have been drawn from all available data in the GForge Issue Trackers, and limited to those opened during the periods covered by Internal Deliverable 2.1 different versions: from September 1st 2013 to December 15th 2015.

Data shown here may differ from the previous section in a couple of tracker items due to some inconsistent ones being omitted for clarity.

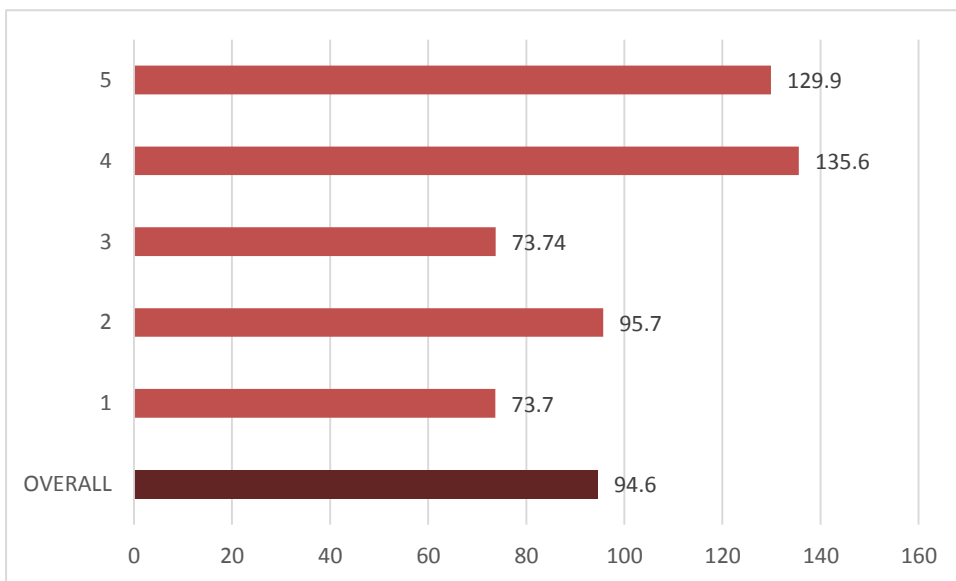
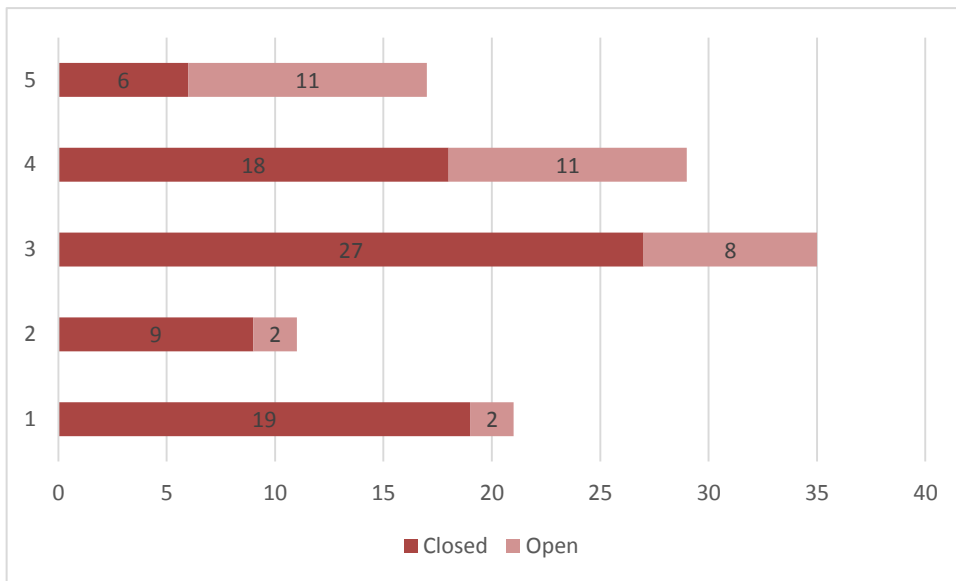
Total items per type



Average closing time (days) per type



Total items per priority*



Average closing time (days) per priority*

*Priority is marked 1 to 5, with 1 being top priority

3. Training framework

3.1. Framework updates

It is worth reminding that training and documentation are separate efforts: T3.3 is in charge of coaching and the maintenance of the training materials, while T2.2 is in charge of the maintenance of the technical documentation. This means that an update on technical documentation does not imply a change in the training framework, especially taking into account that ReAAL developers have mostly already been trained.

The main changes in this “framework” during the period of this deliverable version are indeed only related to the technical documentation used for training, for the new versions of the platform released. Changes are described in more detail in the following subsection per source of information. The other, accessory change affecting the training framework was the complete migration of the technical documentation to GitHub Wiki pages from the GForge Wiki pages. The latter were finally removed, thus preventing the duplication of content.

The main topic regarding training in this period is the introduction of the Associated Pilots. These followed the training path previously applied to regular ReAAL pilots, but benefiting from all the updates and improvements introduced throughout the project. An open physical training event for 3rd parties was held in Eindhoven on February 26th and 27th, where some of the Associated Pilots were introduced to the platform basics.

3.2. Status report

3.2.1. Materials status

The following is a list containing all current and up-to-date sources of training documentation of interest for ReAAL about the usage of the universAAL platform, regardless of their origin being technical documentation from T2.2 or coaching from T3.3, existing work of uAAL or any other source:

ReAAL Formation Moodle	By: T3.3
http://www.universaal.org/reaal/	
<i>Adaptation and update of universAAL training materials oriented specifically to focus on ReAAL developers, including new content specifically for ReAAL pilots. Access is open as “guest user”.</i>	
Latest updates: No updates during this period.	

universAAL Reference Documentation	By: uAAL, T2.2, T3.3
https://github.com/universAAL/platform/wiki	

Developer-written content, such as tutorials, design decisions, features and so on

Latest updates: Previously located in GForge, the wiki pages have been migrated to GitHub. A full rework of their structure was performed. Outdated links have been removed or updated. Updated content with new features of the new versions 3.3.0 and 3.4.0 of the platform.

universAAL Release Notes	By: uAAL, T2.2
https://github.com/universAAL/platform/wiki/RD-Release-History	
https://github.com/universAAL/platform/wiki/Transfer	
<i>The Release History highlights the changes, additional features and fixes that are included in each new release, and the Transfer instructions will tell developers how to perform the changes needed to adapt to the new version of the platform, whenever there is a change in the API</i>	
Latest updates: Previously located in GForge, the wiki pages have been migrated to GitHub. Updated content for new releases 3.3.0 and 3.4.0.	

ReAAL Knowledge Portal	By: T5.1
http://reaal.aalooa.org/wiki/ReAAL_Knowledge_Portal	
<i>Knowledge portal for ReAAL partners, including guided content and links to universAAL-related materials</i>	
Latest updates: The Knowledge Portal has been reorganized, but there have been only minor “maintenance” changes to content related to uAAL Training.	

universAAL Open Source AALOA Community	By: T6.3
http://universaal.aalooa.org/	
<i>Entry point for universAAL from the AALOA community. Not oriented to ReAAL but to the outside community. It mostly contains information, links and resources already available in the other sites.</i>	
Latest updates: Added a few more links of interest (mainly to GitHub). Deployment of the packages with the latest versions of the platform, 3.3.0 and 3.4.0 (the later now compatible with Windows and Linux with the same package).	

3.2.2. Activities status

The main topic regarding training in this period is the introduction of the Associated Pilots. These followed the training path previously applied to regular ReAAL pilots, but benefiting from all the updates and improvements introduced throughout the project.



An open physical training event for 3rd parties was held in Eindhoven on February 26th and 27th, where some of the Associated Pilots were introduced to the platform basics.

Like with the regular ReAAL pilots before them, several on-demand virtual meetings were held with the Associated Pilots to help with the universAALization process. As usual, this happened via Skype, GoToMeeting, and continuous email support.

4. Open source strategy

4.1. Status report

Since the release of the D2.2 we have started the creation of the universAAL Platform Open Source community within the umbrella of AALOA community. We defined, as a first step, the Governing Board of the universAAL project, and we created a mailing-list open to everyone interested in the project.

While not strictly tied into ReAAL, this community will help maintaining the universAAL platform both during the project and afterwards. Also, the ReAAL project has a strong influence in the community, as illustrated in the Governing Board section.

4.1.1. Mailing-list

The mailing list: dev@universaal.aaloa.org keeps serving users of universAAL. The number of subscribers has grown to 30. That is +7 with respect to the previous deliverable. The passage to GitHub has accounted for about a quarter of total messages exchanged in 2015.

Here are some more statistics highlighting the importance and use of the mailing list for the universAAL developers:

- 639 total messages exchanged (352 in 2015)
- 29 out of 30 subscribers wrote at least one message (19 in 2015)
- 145 different subjects (85 in 2015)
- 10 most successful subjects account for 39% of messages (54% in 2015)
- 10 most active subscribers account for 93% of messages (96% in 2015)

4.1.2. Governing Board

We established the universAAL governing board. The main purpose of the board is to drive the development of the universAAL platform, which involves both ReAAL and non-ReAAL partners. Currently, all non-ReAAL partners come from the universAAL project.

The governing board communicates by means of the *board@universaal.aaloa.org* mailing list. This list is restricted only to the board members.

In 2015 the mailing list was used to discuss to answer queries from various people interested in universAAL.

4.1.3. Website

The website of <http://universaal.aaloa.org/> is maintained and updated according to the universAAL release cycle. It contains the most important pointers to the universAAL resources such as Developer Depot, GForge forums and trackers, GitHub page, Reference Documentation wikis and other links of interest. These have been updated and reorganized to be more readable.

This page also hosts the “binary” (already compiled, ready to run) universAAL release packages, to which versions 3.3.0 and 3.4.0 have been added. Whereas usually there had to be separate packages for Windows and Linux, starting with version 3.4.0 there is only need for a single unified one.

4.1.4. **GitHub**

The code repositories were finally migrated to GitHub, translating them from SVN to GIT, with complete history. Although not all of the branches were pushed to GitHub: the user sandboxes were discarded. The complete history and branch repository were pushed to gitlab.com (<https://gitlab.com/groups/universAAL/>) and to a self-hosted server (<http://gitlab.lst.tfo.upm.es/universAAL>). These act as backups. A nightly script pushes changes in GitHub to these backup repositories.

GitHub (<http://github.com>) is the leading platform supporting open source communities, with a community of over 12million people and 31 million repositories. Hosting most of the noticeable and renowned OSS projects. It offers GIT public repositories, up to 1 GB each, and a very powerful set of collaborative development tools which includes:

- Code review and statistics
- Forking and Pull requests, which allow any user to contribute to the project
- Commenting on commits, issues or pull requests
- Multi mark-up language wiki pages
- Organization and group management, with fine grain access control to repositories
- GitHub pages, that allow creating and hosting static web pages as easily as using the git repository it self
- Highly dynamic- and integrated issue management, with labels and milestones

All these tools help promote the openness and community of any software project, plus it is completely free. Only the last feature (issue management) has not been yet used in the migration, as explained in section 2.

The wiki pages from GForge were migrated to GitHub by means of a purposely built extraction and adaptation tool in order to make them compatible with GitHub wiki system. Since in GitHub the wiki pages are backed by a GIT repository, they too are backed up in the backup repositories.

4.1.5. **Future plans for Open Source**

Some actions have been studied to consolidate the open source community around the universAAL platform in the future beyond the extension of the project:

- Migrate the issue trackers to GitHub. This would provide external developers a single entry point to the platform, and achieve a better integration with the source code and its management. It would also allow to finally shut down the GForge server, reducing running and maintenance costs.

- Single-entry-point web page for developers, pointing to everything they may need to start learning and developing in universAAL. This could be located in the web-hosting facility of GitHub: <http://universaal.github.io>. Currently this link hosts an empty preview, showing the possible style and structure for such page.
- Creating developer-specific social media channels (e.g. YouTube, Twitter, own blog...) to keep developers up to date with the latest technological updates, ideas, news and help make announcements of the open source project to the community.