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Replication Guidelines
[Deliverable 5.4]

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Versioning and contribution history

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0.2	04.07.2016	M. de Mul	EUR	Review by WP5 leader
0.3	06.07.2016	P. Sala	UPV	Review by Technical manager
0.4	06.07.2016	F. Visser	RNT	Updated version based on the internal reviewer feedback.
0.5	07.07.2016	Helmi Ben Hmida	Fhg-IGD	Second review
0.6	11.07.2016	F. Visser	RNT	Document update
0.7	12.07.2016	P. Sala	UPV	Document update
1.0	13.07.2016	Helmi Ben Hmida	Fhg-IGD	Official release

Statement of originality:

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

Executive Summary

This deliverable reports on the Replication guidelines. First, the definition of the replication guideline is given. Second, the themes are presented and the context within the DOW is given. In chapter two, the creation process of the replication guidelines is described. Finally, the results are presented as a part of the ReAAL wiki.

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1. Introduction

1.1. What is a replication guideline?

The replication guideline is a document for organizations, Policy makers, SMEs and all kind of target groups interested in implementing AAL and eHealth solutions based on open platform. It gives an overview of the most important lessons learned from the ReAAL project. The lessons learned are clustered around topics. Each topic has a separate section in the ReAAL wiki[1].

For each topic, the replication guideline is based on three questions:

1. What is meant with this topic and why is this topic relevant?

2. What are the ReAAL experiences regarding this topic?

3. What are the future ReAAL recommendations regarding this topic?

The answer to question 1 have led to a description of the topic. The description gives insight on the topic taking into account as much stakeholder views as possible and necessary. The description of each topic is given in dedicated section. The answer to questions 2 and 3 has led to the replication guideline itself. Again these guidelines and recommendations are covering the ReAAL experience as much as possible.

1.2. Themes

In order to better organize the collection of experiences and lessons learned, covering the whole range of domains and areas of application present in ReAAL project, a set of topics have been identified as the most representative and relevant to be shared with the public.

The selection of the topics has been made taking into account the three main pillars in which ReAAL has been founded: the use of open platform, the operation of large scale pilots, and the evaluation of benefits.

For each one of these aspects, it has been analysed what are the main problems or barriers that organizations face when implementing a project in these areas and if during ReAAL execution we have gained relevant experience on it. The results of this exercise has been the definition of the following topics:

- Regarding the use of open platforms:
  - Technological choices
  - Usage of standards
  - Interoperability
- Regarding the execution of large scale pilots:

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[1] The ReAAL Wiki is reported in the deliverable D5.1b

- o Procurement policies

- o Business and financing concepts

- o Roll-out strategies

- Regarding evaluation of benefits:

  - o Monitoring the quality of technical adaptation

  - o Evaluation and monitoring

  - o Ethical and legal issues

1.3. Deliverable context

Project item	Relationship
Objectives	O3: Establish the necessary circumstances for the emergence of an initial universAAL ecosystem by showing the platform usefulness and spreading the related technical knowledge. O4: Establish a multi-dimension evaluation methodology to measure the impact of the deployment of the universAAL ecosystem. O5: Collect and spread a set of best practices O7: Validate the effectiveness of the value chain
Exploitable results	R9: The ReAAL Replication guidelines
Work plan	This deliverable is linked to T5.4
Milestones	MS4
Deliverables	This deliverable D5.4 is the only version available and contains the replication guidelines
Risks	Rk10: Lack of sufficient outreach Rk14: Inconsistent or too low quality of data for the evaluation Rk16: Resistance of health and social care providers to use legacy technology Rk21: Changes in national policies on issues of ICT, authentication and privacy

2. Methodology used

This chapter describes the adapted methodology for creating the replication guidelines. The lessons learned from ReAAL interventions were internally and externally shared. Finally, the lessons learned have been consolidated by publishing the replication guidelines. This process requires initially a deep analysis of the relevant data, synthesizing them into universally applicable guidelines, and sharing best practices and procedures among vested stakeholders.

2.1. Analysis of the relevant data

Data gathered from different sources like blogs, available deliverables, focus groups, interviews, etc. of the project has been categorized, classified, and summarized around a set of topics. Mainly technological choices, usage of standards, interoperability guidelines, procurement policies and procedures, business and financing concepts, roll-out strategies as well as monitoring and evaluating the process of adapting products and services to universAAL IoT open platform.

The local and individual settings of each pilot was also very helpful, especially the insights gained at each pilot location, when key stakeholders from each pilot site conclude their specific experiences. This was of great importance. For this reason, seminars, focus groups and interviews were organized, where representatives of pilot sites were requested to summarize their experiences, along with best practices arising from their pilot.

2.2. Synthesizing data into universally applicable guidelines

The knowledge derived from the above data analysis was merged to create universal guidelines and best practices for the different topics. This synthesis entailed a coding of the information into overall themes, as described above, such as use of standards, interoperability guidelines, choice of technologies, planning roll-outs, procurement, adaptation and business and evaluation strategies. Besides being generalizable, the guidelines were developed to be as specific and comprehensible as possible to enable effective replication. After the consolidation, the proposed guidelines were validated and modified in collaboration with all vested parties, for example during the ReAAL seminars.

2.3. Sharing best practices and guidelines among vested stakeholders

The best practices were shared with the consortium throughout the ReAAL project, and were centralized around the knowledge portal. This has allowed us for continuous pilot-to-pilot exchange of e.g. ideas on how to better organize the delivery of AAL services at the pilot sites, retain the user base etc. At the latest in the end of the ReAAL project, the consolidated best practices and guidelines were shared with the wider AAL community through the public sections of the knowledge portal, direct stakeholder interaction (provider-to-provider), and on the international scene through conferences, rapports and publications.

2.4. Overall overview of the taken steps

This section presents a comprehensive overview of the steps taken to come up with the replication guidelines. The steps mentioned reflect the executed activities which were centrally coordinated to extract the replication guidelines.

1. Kick off during a plenary meeting in November 2014

2. First months of 2015 the descriptions of the topics were developed

3. After finalization of the description the data has been collected and synthesized into the guidelines in the period till November 2015. This has been done in smaller working groups, virtual sessions and discussions within the consortium. The intermediate guidelines were published on the wiki.

4. During the 'Badalona Plenary meeting' 30th November 2015 – 2nd December 2015 the first results of the replication guidelines were presented.

5. In March 2016 a workshop was organised to align the replication guidelines

6. During the 'Bari Plenary meeting' 26th April 2016 – 29th April 2016 the content of the replication guidelines was finalized.

7. The final replication guidelines were published on the public wiki in May 2016.

3. Results

The replication guidelines can be found on the ReAAL Knowledge Portal. This knowledge portal contains all the feedback and lessons learned from the partners in the ReAAL project when it comes to upscaling on top of open platforms.

An introduction to the replication guidelines starts with a general introduction to these guidelines. In this introduction a short description on the topics and the methodology has been given.

From this introduction different links to the underlying topics can be found.

It starts with a description on technological choices. In this part is elaborated on the different choices that a manager in charge of deploying AAL services has to make. These choices are spanning from pilot phase to large scale operation.

Next a description on the usage of standards has been provided. What is a standard and what are the benefits of using it? It may also become clear that standards are available on different levels.

An important description has been provided on interoperability in the field of AAL. Interoperability must be reached on different levels according to the framework provided within the EIP on AHA. An elaboration on that has been given.

When it comes to procurement policies there is a huge difference all over the EU. However, lessons learned when it comes to upscale usage of open platforms have been learned and provided via this way.

Concerning business and financing concepts within the AAL domain, this concept must ensure sustainable usage. However, it seems that large differences between countries and systems are influencing this a lot.

A lot of lessons learned has been defined when it comes to roll-out strategies in the field of AAL technology. Different strategies and definitions can be given. There is also an elaboration on the difference between upscaling in the field of AAL and eHealth.

Monitoring the quality of technical adaptation has been provided based on the experience of the pilots in combination with technical partners. The lessons learned from this experience may be worth full.

The evaluation and monitoring replication can be divided into two main parts. The first part is about the lessons learned when it comes to monitoring and evaluation of the benefits of using open platforms. The next part is about the monitoring of the quality of technical adaptation mentioned in the previous paragraph.

Since ReAAL is upscaling within the real life setting, it is important to consider the different ethical and legal issues that comes along with it. How to meet the ethical principles in reality and some insights on data protection are given.