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Platform sustainability and ecosystem enlargement plans

[Deliverable 6.4]

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Description:

Report on the platform sustainability and ecosystem enlargement activities undertaken according to the description of T6.3 in the project work plan as well as the related plans for the time after ReAAL.

Versioning and contribution history

Version	Date	Author	Partner	Description
0.1	14-Sep-2015	Juan Ba. Montalva	UPM	Structure of the document and task assignments
0.2	18-Nov-2015	Juan Ba. Montalva	UPM	Section 1 and description of universAAL
0.3	16-Feb-2016	Juan Ba. Montalva	UPM	Added a first version of the governance based on former preparations by CNR
0.4	26-Feb-2016	Pilar Sala	UPV	Review and improvements in the universAAL descriptions
0.5	15-Mar-2016	B. Jean-Bart	TRIALOG	First version of report on marketing measures
0.6	15-Mar-2016	Pilar Sala	UPV	Review and improvement in marketing
0.7	18-Mar-2016	Juan Ba. Montalva	UPM	Improved the governance section
0.8	8-Jun-2016	S. Tazari	Fh-IGD	Restructuring: removal of universAAL description, shifting the governance to appendix, and adding first content on the strategy
0.9	16-Jun-2016	S. Tazari	Fh-IGD	Improvement of the strategy section and adding new content
0.91	27-Jun-2016	B. Jean-Bart	TRIALOG	First complete version of the marketing section
0.92	11-Jul-2016	S.Tazari	Fh-IGD	Completed the strategy section
0.93	14-Jul-2016	S. Tazari	Fh-IGD	Applied review feedback by A. van Berlo (SmH), F. Visser (RNT) and A. Braun (Fh-IGD)
0.94	15-Jul-2016	B. Jean-Bart	TRIALOG	Applied review comments to the marketing section
1.0	15-Jul-2016	S. Tazari	Fh-IGD	Final editions and 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This deliverable contains original unpublished work except where clearly indicated otherwise.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

D6.4 puts the cornerstone for creating a new legal entity that takes responsibility for the sustainability of universAAL and the growth of its ecosystem. This includes preparations for the statutes and bylaws for an open non-profit international association based in Brussels, Belgium, called The universAAL IoT Coalition, as well as the definition of its business plan and a roadmap to success.

During the project, several marketing activities were performed, including two marketplace events involving suppliers of the pilot sites and the creation of a new Website for universAAL, ousting the old Website of the EU project universAAL.

The short term steps towards the creation of the Coalition are the following:

• Finalization of the business plan, roadmap, statutes and bylaws by the end of July 2016

• Determination of the founding members and finalization of the legal statutes by the end of August 2016

• Registration of the Coalition as an international association in Brussels by mid of September 2016

• First announcement in a public event at AAL Forum, 26-28 September, St Gallen

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1. About This Document

By stress-testing it under real life conditions, ReAAL has brought universAAL to the next level of maturity: certain parts of the platform have reached the technology readiness level[1] TRL-9 with actual proof in operational environment; some other parts of universAAL completed the prototype demonstration phase (TRL-7). It is also clearer now what should be the next priorities in the maintenance and further development of universAAL.

Despite the fact that universAAL still has many irons in the fire, the above status, as well as the fact that several of the ReAAL pilots have continuation and replication plans with universAAL, obliges the universAAL developer community to take the responsibility and ensure the sustainability of this platform in accordance to the following major objective of the ReAAL project:

> *O8 Refine and consolidate the business model of universAAL as a mandatory step for the planning of the sustainable exploitation immediately after the end of project*

This deliverable summarizes the project work towards achieving this project goal. The aspect of "ecosystem enlargement" in the title of this deliverable emphasizes the mutual relationship between the sustainability of a good, on one side, and its usage, on the other side.

1.1. Deliverable context

Project item	Relationship
Objectives	D6.4 is the means to achieve O8, while also strengthening the impact of achieving O1, O2, O3, O5, O6, and O7 through other project activities.
Exploitable results	D6.4 is part of Res-10 and ensures the durability of many other exploitable results of the project.
Work plan	D6.4 is the result of work within T6.3: Platform sustainability and ecosystem enlargement from WP6: Dissemination & exploitation plans. Work in T6.3 was done in interaction with T6.1 on dissemination activities.
Milestones	MS5
Deliverables	Does not use any other deliverable as input; is not used as input for any other deliverable, but being produced in parallel to D6.3, it has had indirect impact on the continuation & replication plans of the pilots.
Risks	D6.4 is being delivered in the end of the project when project risks lose their relevance.

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[1] See http://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2016_2017/annexes/h2020-wp1617-annex-g-trl_en.pdf.

2. Strategy for universAAL sustainability

2.1. The goal of the sustainability strategy

IoT, and AAL as a possible instantiation of it to create smart living environments, have great potential for positively influencing the lives of many people. The Lecce Declaration[2], signed by over 200 organizations from over 44 AAL projects and published in the context of the AAL Forum 2011 in Lecce, Italy, states that common open platforms are essential for the advent of such complex systems of systems. It emphasizes that self-organizing ecosystems emerge around common open platforms, as they facilitate the development of products and services, while ensuring interoperability, financial sustainability, and overall support of end user needs within the ecosystem.

universAAL[3] is the open platform resulted from the consolidation of several preceding open platform approaches in Europe that fits the requirements for open distributed systems of systems[4], such as dynamically extensible AAL and IoT systems. It is one of the most mature alternatives with support for semantic interoperability that, thanks to ReAAL, has already over 6000 users in 13 different locations in Europe, with 31 applications on top, that realize over 100 different use cases. universAAL is offered with the Apache Software License 2.0, which is one of the most permissive open source and free software licensing models.

As a matter of fact, there is no central organization of resources for the maintenance and further development of a master version of the universAAL software (**uM&fD**). In alphabetical order, the current core developers of universAAL come from CNR-ISTI, Fraunhofer IGD, UPM and UPV. The commitment of these organizations to the development of the related software has been bound to the collaborative participation in three subsequent EU projects since 2007 (PERSONA, universAAL and ReAAL). The benefits from this constellation have been threefold: (1) the

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[2] http://publica.fraunhofer.de/documents/N-225288.html

[3] http://universaal.info/, https://github.com/universAAL/.

[4] An open distributed system is a system with several communicating hardware components, each possibly hosting several software modules, that allows to dynamically add and remove components – hardware as well as software – and nevertheless guarantees a certain level of operation without having to recompile, reinstall or restart any part of the existing and running system. The components of an open distributed system may be ``redundant'', competing with other existing components or bring new functionality with them. To join to such a system, a component must follow the provided specifications and be somehow authorized. The Web is the largest known open distributed system constantly in dynamic evolution. As components are removed and added, the Web continues to work without essential affection even if some end-points and users may experience difficulties with certain changes.
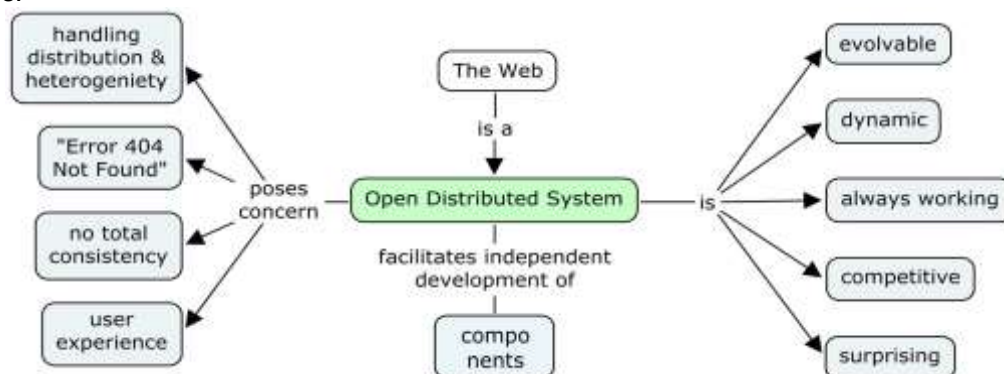
emergence of a committed open source community that (2) provides an important infrastructure software free of any patent and royalty with (3) an independent character (serving an ecosystem and not bound to any single brand or the business plans of any single organization).

Considering

- the value of universAAL with advanced unique features, such as its support for semantic interoperability (that facilitates effortless integration and mass customization), context-awareness and human-environment interaction,

- the level of maturity that parts of universAAL has shown in ReAAL pilots, partly in real life with continuous operation (24 hours a day and seven days per week), and

- the fact that the market is still looking for the mainstream technological platform supporting the evolvement of open distributed systems of systems à la IoT & AAL,

both the universAAL developer community and many of its users believe that with universAAL, there is a good potential and a real chance to achieve remarkable market impact.

However, the threat that is endangering uM&fD is the fact that there is no further project involving the whole core developer community any more. This threat will have two fatal consequences: (1) with the time, the related organizations will take away their resources from uM&fD and dedicate them to new contracted work; and (2) if new contracted work is somehow connected to universAAL and makes it possible to eventually continue with the uM&fD, each organization will be working in a different context, which will lead to fragmentation and the creation of parallel branches of code, losing the one master version.

Therefore, a decisive prerequisite for achieving the market impact is the assurance of uM&fD. Consequently, **a main goal of the sustainability strategy is to make sure that the needed resources for uM&fD can be mobilized and the related costs can be covered**.

2.2. Important Elements of the strategy

2.2.1. The Organization

The sustainability strategy has to solve the issue of responsibility for the master version of universAAL through a centralized management.

After the EU FP7 project "universAAL" ended without establishing AALOA (the AAL Open Association) as a legal entity and obviously without creating the universAAL board within AALOA, ReAAL tried to continue with the same strategy in the first place. Discussions within the temporary governing board of AALOA resulted in trying to register AALOA in Germany; Fraunhofer was supposed to follow up with the necessary legal steps.

In parallel, ReAAL led the process of creating the universAAL board and the universAAL developer community in terms of two mailing lists (dev@uaal.aaloa.org and board@uaal.aaloa.org) as preparation for incubating uM&fD within AALOA. The incubation of universAAL as an AALOA project was then implemented by creating the Web space http://universaal.aaloa.org/.

In the meanwhile, the legal department of Fraunhofer headquarters had studied the proposed statute of AALOA and came to the conclusion to refuse to become a founder of AALOA, with the recommendation to register AALOA by individuals. In parallel, and as a result of intensified discussions on the advantages and disadvantages for universAAL to stay as a project within AALOA, the developer community was confronted with the fact that only players funded within ReAAL were contributing to uM&fD and there was low/no activity by partners without funding; this led to the conclusion that activity can be guaranteed only if there is some business with universAAL.

Therefore, the creation of a commercial entity with a clear universAAL-based business plan and hence committed to uM&fD was discussed. As all of the organizations continuing with uM&fD are research organizations, two alternatives came more into the focus: (1) creating a single joint venture, and (2) creating a coalition of spin-offs of the research organizations involved in uM&fD. Both were finally considered as very cumbersome processes (due to the necessity to involve the highest levels of the management of the related organizations and their legal departments). In addition, the alternative #1 could weaken the independent character of universAAL while the alternative #2 with the creation of several spin-offs first, would be hardly synchronize-able.

At this point, ReAAL Advisory Board came to the conclusion that building on the independent character and guaranteeing the continuation as free and open source software could be key success factors for universAAL. Hence, they recommended to create "The universAAL Coalition" as a non-profit coalition of the stakeholders in the universAAL ecosystem. The coalition should aim at financing uM&fD while preserving the main characteristics, namely being independent, free, and open source. This should be in the interest of the members as they are assumed to make business with products and services that are based on universAAL. Furthermore, the Advisory Board recommended to recruit a professional "salesman" for the marketing of the coalition in order to make sure that the coalition will have a successful launch.

These recommendations of the ReAAL Advisory Board were discussed within T6.3 and the project Steering Board; both bodies finally accepted them with the following reasoning:

- a coalition for clearing the financial hurdle of sustainability targets the resolution of the central issue

- an initiative focused on universAAL will not waste resources for more ambitious goals like creating AALOA as a general association, in which universAAL may be one of many and hence effectively disadvantaged

- the "independent character" can be preserved and the continuity as open source and royalty-free software can be guaranteed

This decision is based on the following assumptions and principles:

- Like most of the other open source projects, the core developer community of universAAL may change over time: new people may become committers and old committers may leave (even if in practice this kind of dynamism in open source projects is usually not very high).

- When we talk about covering costs, we are not thinking about covering the costs of a fixed set of organizations / individuals, but about covering the costs of uM&fD and creating official universAAL releases, no matter who is behind the related technical work. In other words, covering the uM&fD costs must be independent from the potential dynamism mentioned in the previous bullet.

- The coalition as a central contact point hides the de facto distribution of knowledge among the core developers, which will facilitate the knowledge management in a more efficient and natural way.

Furthermore, T6.3 identified the following as key success factors for the targeted legal entity:

- A clear, realistic and eventually working business plan for the legal entity

- Dedicated (paid, no matter if part time or full time) management (team) of the legal entity (implies that the business plan must generate enough money for covering the related overhead)

- A clear and transparent procedure for funding the development work

- Making sure that universAAL does not lose its relevance for the market

- On top of all, making sure that the ecosystem quickly reaches an acceptable size, assuring also good growth rates

However, based on feedback from external and satellite organizations, T6.3 decided to thoroughly evaluate the possibility for entering an existing association as an alternative to establishing an own legal entity, when with such alternative the above principles and success factors are satisfied and the identity does not dwindle away.

The following alternatives were identified:

- The OW2 Consortium (www.ow2.org)

    OW2 is an independent, global, open-source software community. The mission of OW2 is to a) promote the development of open-source middleware, generic business applications, cloud computing platforms and b) foster a vibrant community and business ecosystem.

    OW2 provides two structural constructs for integrating communities:

    (1) OW2 Projects: OW2's activities for software development are organized into Projects. Projects are the raison d'être of OW2, and without projects, OW2 would not exist. The addition of new Projects within the OW2 platform and their lifecycles are supervised by the OW2 Technology Council. OW2 endeavours to integrate solutions helping Projects to produce assessment reports on the quality of the code and on the maturity of their governance.

    (2) OW2 Initiatives: Initiatives are joint efforts by OW2 Members aimed at facilitating the use of OW2 technologies by mainstream Systems Integrators, End-Users and Software Vendors. Within an Initiative, OW2 Members work together to develop both technical integration between projects and business synergies in order to address specific market needs.

    Note: As a matter of fact, OW2 is already almost the association that AALOA once wanted to be.

- AAATE – The Association for the Advancement of Assistive Technology in Europe (www.aaate.net/about-aaate/)

    AAATE is the member driven "Umbrella Association" advocating and working for the advancement of assistive technology (AT) in Europe. The AAATE is the interdisciplinary pan-European association devoted to all aspects of assistive technology, such as use, research, development, manufacture,

supply, provision and policy. AAATE's mission is "to stimulate the advancement of assistive technology for the benefit of people with disabilities, including elderly people." It provides the following possibility for integrating communities:

AAATE SIGs (Special Interest Groups): Members may organize and join groups within AAATE representing special interest areas.

Consequently, all the options were analysed with regard to their pros and cons in order to choose the most appropriate one from among them:

Option	Pros	Cons	Challenges
Create an own legal entity	full control of own "corporate identity"; dedicated promotion of universAAL and acquisition of contracts for universAAL; optimized conceptual framework dealing with categories of membership and related rights & responsibilities as well as with the management of contracts and the implementation of related cash flows.	overhead of creating the legal entity; difficulty in covering the coalition management costs in the beginning until number of members is large enough.	Will we be able to launch the legal entity before ReAAL finishes?
Create the coalition as an OW2 Project	existing legal "container" with established statute and bylaws; quick links within a relevant larger community.	less relevant for the general stakeholders from the universAAL ecosystem but more for the open source project itself (which is already accommodated within GitHub); high membership fees with limited loopback to the coalition (the fees cover the OW2 management costs which is not dedicated to universAAL), challenges in the definition of own membership categories and its effects on the rights and responsibilities with regard to uM&fD; challenges in the management of the contracts and guaranteeing that the revenue is strictly dedicated to uM&fD.	being one of many may weaken the aspects related to the coalition identity, promotion of universAAL and acquisition of contracts for universAAL; it is not clear how the cash flow related to universAAL contracts can be organized and how the OW2 management overhead will influence this cash flow.
Create the coalition as an OW2 Initiative	existing legal "container" with established statute and bylaws; quick links within a relevant larger community; compared to OW2 Projects, a better fit for attracting different types of the ecosystem stakeholders beyond the universAAL developers.	necessitates the involvement of an OW2 strategic member (3x €50,000); high membership fees with limited loopback to the coalition (the fees cover the OW2 management costs which is not dedicated to universAAL); challenges in the definition of own membership categories and its effects on the rights and responsibilities with regard to uM&fD; challenges in the management of the contracts and guaranteeing that the revenue is strictly dedicated to uM&fD.	same as in case of OW2 Projects
Create the coalition as an AAATE SIG	existing legal "container" with established statute and bylaws, quick links within a relevant larger community; very low membership fees; apparently a good degree of freedom in incorporating an own governance within the constraints of the AAATE "constitution", which is very short and generic.	mismatch between our vision and the AAATE mission both in terms of "language" / marketing strategy and in terms of content; the geographic emphasis of AAATE on Europe as opposed to our strategy of de facto leadership in Europe while clearly trying to become a global player.	same as in case of OW2 Projects

Based on the result of this comparison (pros, cons & challenges), the project decided to register an own legal entity as an open international non-profit association in Brussels, with the name "**The universAAL IoT Coalition**". Sections 2.2.3 to **Error! Reference source not found.** describe the concept of this Coalition in terms of its business plan, governance and business processes.

Note: Remaining content in Section 2 reflects only <u>an intermediate status</u>. T6.3 in ReAAL is <u>complementing and adapting</u> this content with the help of the Commission's "<u>Common Exploitation Booster</u>" services. The results will be <u>public documents</u> that will be sent to the Commission after finalization, but in any case <u>before the final review</u>.

2.2.2. The governance of the organization

A first round of investigation on governance was closed in early this year (2016) as summarized in Appendix A. This intermediate result starts with a landscape analysis of existing open source projects, and with three distinct sub-documents eventually provides for

- the governance of the universAAL open source project, as well as

- the governance of an association / a foundation involving universAAL ecosystem stakeholders in two sub-documents: (1) the statutes for the legal registration of the organization in a given country, and (2) the internal bylaws that go to the next level of detail compared to the statutes.

As a matter of fact, the first sub-document on the governance of the universAAL open source project is very mature as it is based on well-established examples from the open source scene. As the most important next step, the Coalition founders plan to work on the right links between the Coalition and the universAAL open source project and then reflect the results in this sub-document. Finally, this will be proposed to the "universAAL Development Council" (see further below) of the Coalition for ratification.

However, the two sub-documents related to the statutes and bylaws of the Coalition as included in Appendix A are very pre-mature because they were prepared in a phase that many of the important parameters were not known. In addition, no clear differentiation was done with regard to the division of the different clauses between the statues and the bylaws, e.g., "high-level and stable for longer terms" as criterion for inclusion in the statues versus "low-level or easier to revise" as criterion for exclusion from the statues and hence inclusion in the bylaws.

The second round of investigation on governance of the Coalition has not concluded yet. The latest principles agreed can be summarized the following way:

- Coalition members will pay an annual membership fee which is 1/10000 of their average annual revenue in the last 5 years. Thereby, amounts lower than € 500 will be rounded up to € 500, and amounts higher than € 5,000 will be rounded down to € 5,000. The members themselves declare the amount of the average annual revenue.

- Each year, two groups of these members will be classified as **Strategic Members** that will have certain privileges during that year as specified further below. These two groups are:

  1. The employers of the individuals who have the right to change the source code in accordance to the governance of the universAAL open source

project, provided that they sign a staff secondment agreement with the Coalition (further below referred to as **universAAL Providers**).

2. Organizations that pay a sponsorship fee of at least € 50,000.
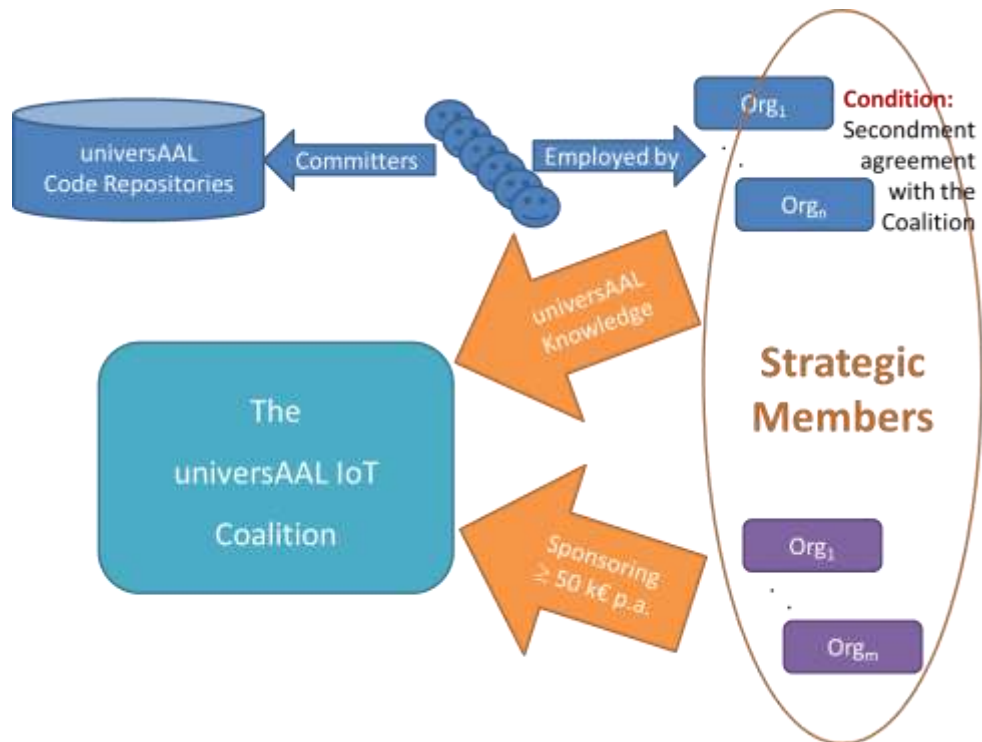
- **General Assembly** of the Coalition elects directly the honorary (voluntary, unsalaried) **President** of the Coalition, the honorary (voluntary, unsalaried) **Controller** and the honorary (voluntary, unsalaried) **Secretary.**

- Members, both strategic and ordinary, have equal voting rights in General Assemblies of the Coalition.

- The President does not have any executive duties but represents the Coalition and chairs its **Supervisory Board** (representatives of the stakeholders a.k.a. directorate, governing body, board of management, board of directors, board of governors).

- Also the Controller and the Secretary become members of the Supervisory Board of the Coalition. Other members of the Supervisory Board are the chairs of the Coalition's four Councils as defined further below.

- The Supervisory Board of the Coalition employs the Coalition's directors for the roles as **CEO** (Chief Executive Officer a.k.a managing director / executive director) and as **CTO** (Chief Technology Officer). Both of the roles can be played by one single person, if appropriate.

- The CEO has to make sure that all the business processes of the Coalition run successfully. S/he reports to the Supervisory Board.

- The CTO is responsible for the management of the universAAL developers seconded from the Strategic Members of type #1. S/he reports to the CEO.

- Other staff of the Coalition will be hired by the CEO.

- The General Assembly also forms the Coalition Councils:

1. **The universAAL Development Council** sets the high-level policies to drive the platform development. It will deal with technological issues such as security, privacy and confidentiality, software quality issues, release policy and licensing.

2. **The Ecosystem Development Council** sets the high-level policies that will drive the action of the other councils in all domains related to the interests of the association. It is responsible for initiatives promoting the development of new applications and the conditions for compatibility between all the universAAL applications to foster the creation of a comprehensive and consistent environment. It promotes dialogue with members and users to identify and remove the obstacles to the take up of all technologies, products and services in the universAAL. It provides inputs for the Standardisation and the Open Innovation councils.

3. **The Standardization Council** defines the interfaces, protocols and other technical solutions used inside universAAL and deals with standardization bodies. It will decide on preferred (or mainstream) technological solutions recommended (or mandated) to be labelled as "universAAL projects". It is also in charge of choosing from among competing implementations, libraries and standards. The Standardization Council will follow the rules set by the Ecosystem Development Council and will act in full coordination with the universAAL Development Council.

4. **The Open Innovation Council** defines future R&D roadmaps following rules set by the Ecosystem Development Council and in full coordination with the universAAL Development Council. It will also set recommendations and policies for the platform on interaction with external stakeholders (relationships with other organizations, including policy makers and lobbying, e.g. w.r.t. the open platform policies of the EU Commission. It also organizes international hackathons, start-up competitions, and the engagement of early stage investors to facilitate the diffusion of the platform itself among young / new developers. It will also actively engage big players to connect to the development roadmaps of multinational companies.
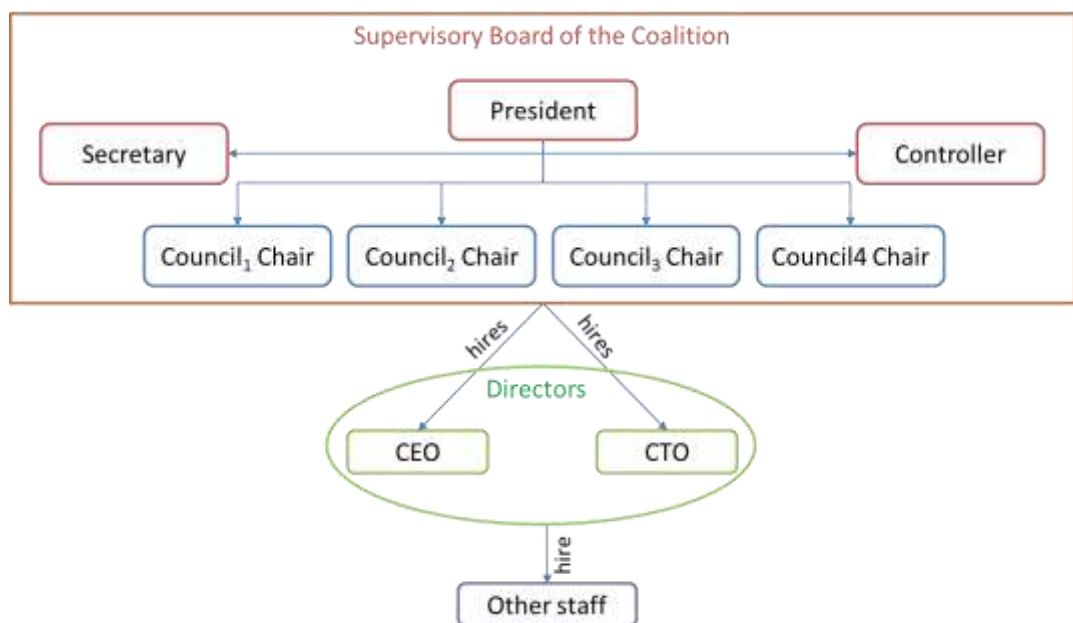
- Half of the council members will be installed by Strategic Members and the other half elected by the General Assembly. Each Strategic Member can install one individual in each Council as member. Therefore, the size of all Councils is equal to twice the number of Strategic Members.

- Each Council will have monthly meetings. Work in the Councils is voluntarily, without payment.

- Chairs of the Councils are elected by each Council's members from among themselves, no matter if strategic installations or elected ones. They report to the General Assembly.
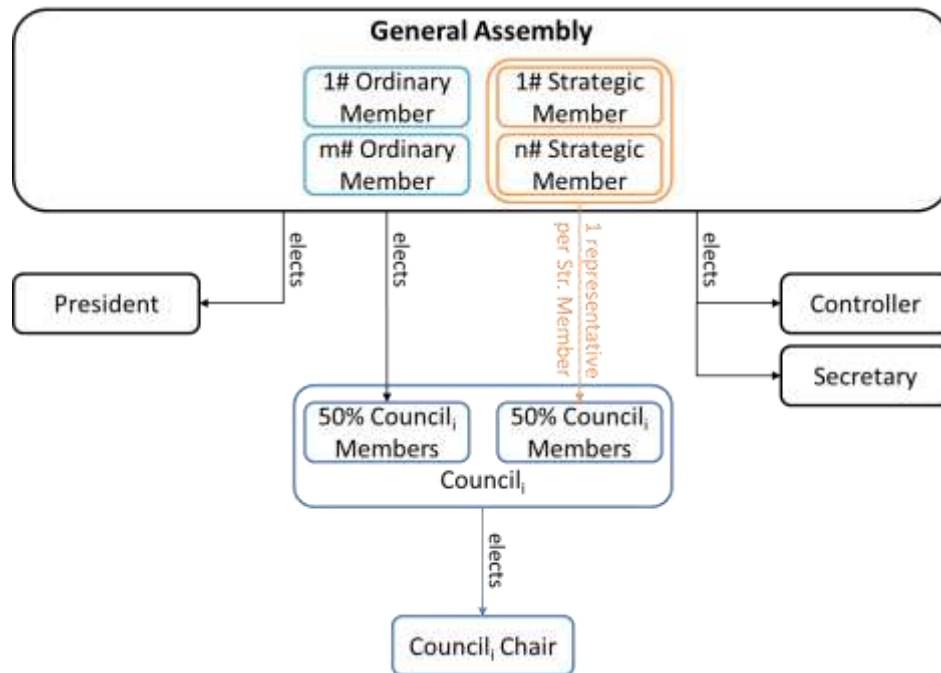
- The CEO attends the meetings of the Ecosystem and Innovation Councils.

- The CTO attends the meetings of the Standardization and universAAL Councils.

- The Supervisory Board of the Coalition has quarterly meetings with the director(s) of the Coalition to supervise their work.

- The directors report to the General Assembly annually; financial reports must have been approved by the Controller prior to the General Assembly.

- The President summarizes the activities of the Supervisory Board of the Coalition as own report to the General Assembly.

- The budget of the Coalition is mainly formed from membership and sponsorship fees, certification fees and contracted work. Except for contracted work, which has a defined budget as resulted from the acquisition phase, the Supervisory Board approves how the remaining of the budget is used, including the strategic development of universAAL; in particular, the SB decides about the right balance between the growth of the Coalition staff and universAAL strategic development.

- Coalition's contracts may include technical work involving "universAAL Knowledge" to the extent approved by universAAL Providers.

- For each contract approved by the universAAL Providers, each one of them signs a concrete secondment agreement with the Coalition as a concrete

instantiation of the general agreement according to which they became a Strategic Member.

- The Coalition CTO is in charge of finding the right balance to the best of the contracted work when recruiting the needed seconded staff from the different universAAL Providers.

- Secondment of technical staff is utilized also for strategic development of universAAL according to the decisions made by the universAAL Development Council.

As indicated in the note before the start of this subsection, the Coalition founders are still working on this topic with the help of the Commission's "Common Exploitation Booster" services, and the final results will be public documents that will be sent to the Commission after finalization, but in any case before the final review.

In the meanwhile, the above principles will be merged by the intermediate results included in Appendix A, also taking into account other existing examples, such as the OW2 and AALOA bylaws (as worked out by the universAAL project). The resulted statutes will be finalized with the help of a Belgian notary service (costs ca. € 1,000), whereas the bylaws will be presented to the first General Assembly for final ratification.

2.2.3. The business plan of the organization

Description of the organization

Vision: To liberate the Internet of Things by accelerating development of innovative products and service solutions that empower citizens to become co-creators and managers of their own lives and environments.

Mission: To promote, empower and sustain the growth of the universAAL[5] IoT open innovation ecosystem.

The business model canvas

Intermediate results can be found in Appendix B.

As indicated in the note at the end of Section 2.2.1, the Coalition founders are still working on this topic with the help of the Commission's "Common Exploitation Booster" services, and the final results will be public documents that will be sent to the Commission after finalization, but in any case before the final review.

The financial plan

Identified **revenue streams** are:

- Membership and sponsorships fees as defined in Section 2.2.2.

- Certification fees (universAAL-IoT label) according to the provisions of the Standardization Council of the Coalition.

- Contracts; possible types of contracts, among others, are:

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[5] The organization considers universAAL as the free and open enabler for rapid development of interoperable IoT applications that enrich human lives.

1. Participating in funded projects as a partner (good chance through the EC policy to push the usage of existing open platforms),

2. consultancy contracts (support, training, coaching, universAALization, developing on top of universAAL) and

3. platform development contracts (specific versions for specific execution environments, specific features, integration in other frameworks, ...).

Contracts may include an adequate percentage on top of the estimated costs for the contracted work as contribution to financing the strategic development of universAAL independently from contracted work.

Revenue estimations are:

a) **Seed phase:**
   25 members a 2 k€ membership fee in average
   + 1 sponsor a 50 k€
   = 100 k€

b) **After 2 years:**
   250 members a 2 k€ membership fee in average
   + 6 sponsors a 50 k€
   + 60 k€ non-dev part of contracts
   + 40 k€ from certification
   = 900 k€

Identified **cost structure** includes:

• Personnel, office, equipment, marketing

• Most expensive resources: personnel, esp. CEO / CTO

• Most expensive activities: marketing

• [[other activities: certification, standardization, lobbying, training & other events to organize & run …]]

Cost estimations are:

a) **Seed phase:**
   CEO (60%) for 60 k€
   + 10 k€ travel
   + 10 k€ material
   + 20 k€ marketing
   = 100 k€

b) **After 2 years:**
   CEO for 110 k€
   + CTO for 100 k€
   + other staff for 160 k€
   + office for 50 k€
   + marketing for 100 k€
   + annual event for 40 k€
   + reimbursement to councils & supervisory board for 160 k€
   + other costs for 30 k€
   = 750 k€
   → 150 k€ for universAAL strategic development in addition to acquired contracts

As indicated in the note at the end of Section 2.2.1, the Coalition founders are still working on this topic with the help of the Commission's "Common Exploitation Booster" services, and the final results will be public documents that will be sent to the Commission after finalization, but in any case before the final review.

Roadmap with risk mitigating milestones

MS1: Within 6 months after registration:
> participation in at least one EU project
> + double the number of members
> + start of work on the certification program (procedure, test suite, etc.)
> + CEO hires a secretary

MS2: Within 6 months after MS1:
> participation in two more EU projects
> + double the number of members & sponsors (100 members, 2 sponsors)
> + finalize the definition of the certification program
> + CEO full time

MS3: Within 6 months after MS2:
> enough revenue to hire a separate full time CTO
> + launch of the certification program

MS4: Within 6 months after MS3:
> at least one contract from within the ecosystem (i.e., without public funding)
> + excel the estimations in the financial plan

As indicated in the note at the end of Section 2.2.1, the Coalition founders are still working on this topic with the help of the Commission's "Common Exploitation Booster" services, and the final results will be public documents that will be sent to the Commission after finalization, but in any case before the final review.

3. Marketing and Ecosystem Enlargement Report

3.1. Introduction

ReAAL aims to study the impact of an AAL Open Platform on the ecosystem of stakeholders. The project is providing a set of outcomes from which the AAL community can better promote the Open Platform paradigm in the market. A marketing vision has been already elaborated by the universAAL project and it is at the origin of the ReAAL project.

Beyond the original vision, Trialog suggested the necessity to perform a strategic marketing analysis of the Open Platform approach in order to globally define, design and promote universAAL in a competitive environment taking into account the needs of its potential customers.

In particular, the marketing group has had the following missions.

- **Identify the market segments**: AAL services cover a large set of domains and environment (embedded, mobile and Clouds). The advantages provided by an open platform are not immediately perceived if the customers are restricted to one segment (smart homes for instance). Identifying market segments is mandatory to avoid the syndrome: a good platform but no customer.

- **Study the competing approaches or potential partnerships**. This study of trends and other platform designed as potentially competing is mandatory to avoid a myopia effect, i.e. considering that the competing approach cannot come to our market segment. For instance, the opportunity to make a liaison between universAAL and FIWARE platform should be studied.

- **Perform a strategic marketing analysis** on the "product" universAAL: identifying its main assets (what the platform is doing, what are its values, …), its main weaknesses (if any), its position in the market, the "sales" forces of the actual members of the community, the need of a strong partnership with a MNC in order to sustain the "open source" approach, its potential growth and scalability over time.

- **Increasing the universAAL recognition** in order to develop the intention of new customers to draw on it. To do this, an adapted promotion campaign, not only technical, should be established based on the strategic marketing analysis outcomes.

- **Managing the creation of a universAAL Open Platform Web** site for the pilot managers and application developers. Currently the universAAL Web site is a "project" web site and not a "product" web site, with a mix of information For instance, references to the past, i.e. the universAAL project work packages, and depreciated information, should be avoided for clarity.

3.2. Market Research

Beyond Active Assistive Living (AAL) applications, the market segments for universAAL have been enlarged during the ReAAL project. The pilots distributed through several countries present various market dimensions that the marketing strategy of universAAL shall take into account.

1. AAL is not the single market addressed by the stakeholders involved in the ReAAL pilots. Applications designed and universAALised belong to Ambient Intelligence, Health, Entertainment categories. Moreover the frontier between these applications, in real life, is more and more porous. For instance social and health services should now be more integrated, as EIP AHA Action Group B3 (Integrated Care) promotes it. The EIP AHA D4 is concerned with the Age-Friendly environments, that is larger than social and health as it can embraced also smart cities topics including energy management, transport, etc.

2. Generalisation of AAL by its introduction within the Internet of Things ecosystem is also seen as attractive. This approach places universAAL as a generic solution capable of addressing the domains targeted by IoT as long as interoperability or sharing data are the key requirements.

3. Debates on ageing should not be prevailed anymore, as the applications address a larger market of different types of end-users. End-users of applications of ReAAL Pilot differ in age.

3.3. Target groups

The Marketing message for promoting the concept of universAAL shall be adapted to the different targeted segments. At a first level, we identified the four main groups as already done in AAL previously: End Users, Technology Providers, Service Providers, and Policy Makers. For each of this group, the picture below depicts some of the value propositions (see section 3.5.1) of an open platform that can fit best to the targeted groups.
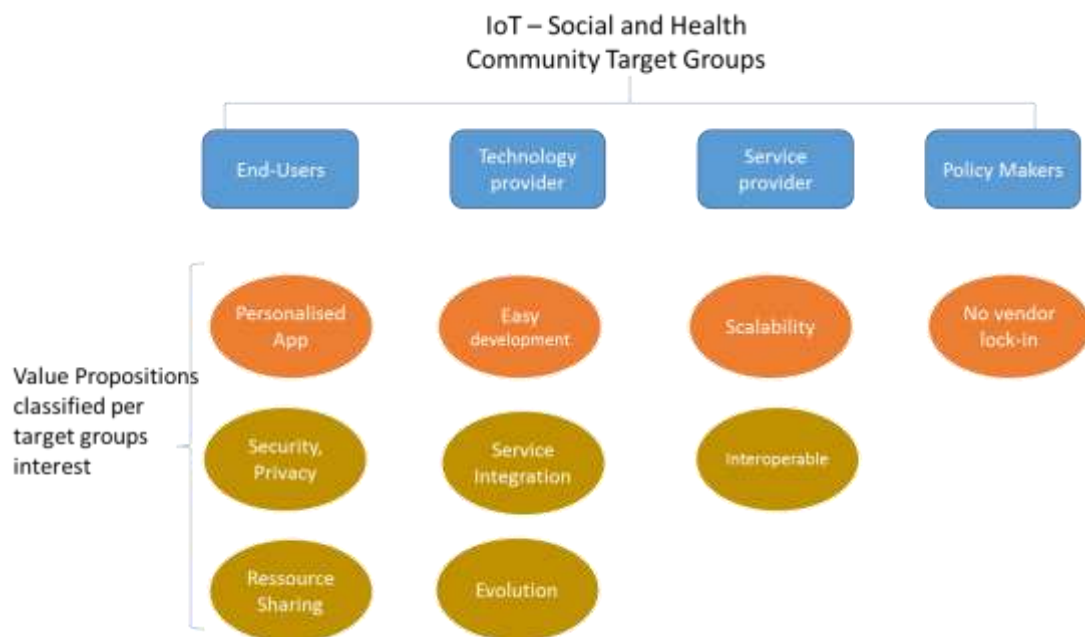
Value propositions for **End Users** shall be preferably presented as indirect propositions. The end-user does not 'touch" directly the middleware and therefore cannot be a direct judge. Like Intel and its famous campaign 'Intel Inside', the message to end-users of universAAL-based applications may be based on the perceived values that universAAL can promote (personalisation, security, privacy, resource sharing, service integration) through a "universAAL inside" or "UniversAAL certified" label.

Developers are looking for a solid technical environment that facilitates the creation of innovative applications. So easy development is a first keyword to include in promotional message to developers. However, motivations for using universAAL shall be clearly defined: why a developer will be encouraged to use universAAL?

A first motivation comes from the service providers (the purchaser) who is demanding for universAAL_based applications.

However this question shall be discussed in relation to target environment. Android versus OSGi. Android is an open environment where several applications issued from different developers can be uploaded under the only responsibility of the end-user. Therefore the universAAL packaging in Android shall be adapted to this constraint. On OSGi, only the developer will decide what to include in the server or in the embedded device containing the universAAL / OSGi environment. So choosing universAAL in both environments may be made for different reasons.

In consequence, promotional communication for developers can differ depending on the target environment Android versus OSGi (or more generally Mobile vs Embeded/Server).

On Android, third-party *Service Integration* can be a first direct motive. Let's assume that several Apps exists on the Play Store, a developer can be encouraged to create new applications using the information provided by the others applications. Several security and privacy concerns shall be however taken into account. Adding new connected devices or new Apps is also a way to enable the *Evolution* of the Offer.

On OSGI/Embbeded environment, universAAL shall be seen as the generic, domain independent interoperability middleware that provides a modular architecture.

Service Providers are looking for services for the consumer market. Scalability is therefore an essential value for establishing easily a large market together with the capabilities to interoperate between other applications and environments. Service Providers expect to get access to existing and proved solutions and applications that could be easily integrated to their legacy systems. A label 'universAAL conformance' can motivate them to be part of the ecosystem.

Policy Markers, on their side, cannot impose themselves the use of universAAL or another platform. However they are in favour of an open market to make innovation possible and avoid vendor lock-in.

3.4. Direct and Indirect Competitors Radar

OSGi: universAAL is both using and providing additions to OSGi. On **embedded devices** or on **servers**, universAAL is designed as a set of OSGi modules. In such an environment, universAAL offers new unique services such as a semantic context and services bus, reasoning mechanisms, a context history, etc. universAAL is using typically Karaf container.

Android: on **mobile** or **tablet**, universAAL is developed as a native Android application. Like for OSGi, it brings new features for Android applications such as a semantic interoperability. This central universAAL capability, avoids domain-specific **APIs** and opens to a new general interoperable **infrastructure.**

Allseen Alliance: The AllJoyn™ framework runs on the local network (typical Wifi, Ethernet). It enables **devices** and **apps** to advertise and discover each other and transmit messages. It aims at replacing the plug&play protocol in order make more

easy integration of Ethernet-based devices. It that sense, universAAL could use Alljoyn framework as communication framework.

FI-WARE The FIWARE architecture is providing a set of **API**s that ease the development of **Smart Applications** in multiple vertical sectors. The challenge addressed is to bring forth an ecosystem of components (called Generic Enablers) providers. UniversAAL is a **middleware** used to generalise interoperability between 'things' and in that sense could be used a Generic Enabler of FIWARE.

oneM2M: The oneM2M architecture is providing a horizontal service integration layer across multiple vertical sectors. The challenge addressed is to provide a framework for interworking with different technologies and enable to reuse what is already available. The **semantic interoperability** provided by universAAL can sit on top of the communication model of oneM2M in order to further loosen the coupling between the components that use oneM2M interoperability framework.

3.5. Marketing Measures

3.5.1. universAAL Showcases and Value Proposition

The showcases defined within the ReAAL project have been the basis for long discussion to measure the impact of the open platform on the ecosystem and various socio-economic criteria (economic, technical, organizational, etc). This evaluation will be one of the most important outcomes of the projects. Marketing strategy shall read carefully and analyze these result.

A pre-analysis has been reported in the article: *Vision and Scope of a Large Scale Pilot project*, written as "A contribution towards a ReAAL white paper".

3.5.2. Contribution towards a ReAAL White Paper
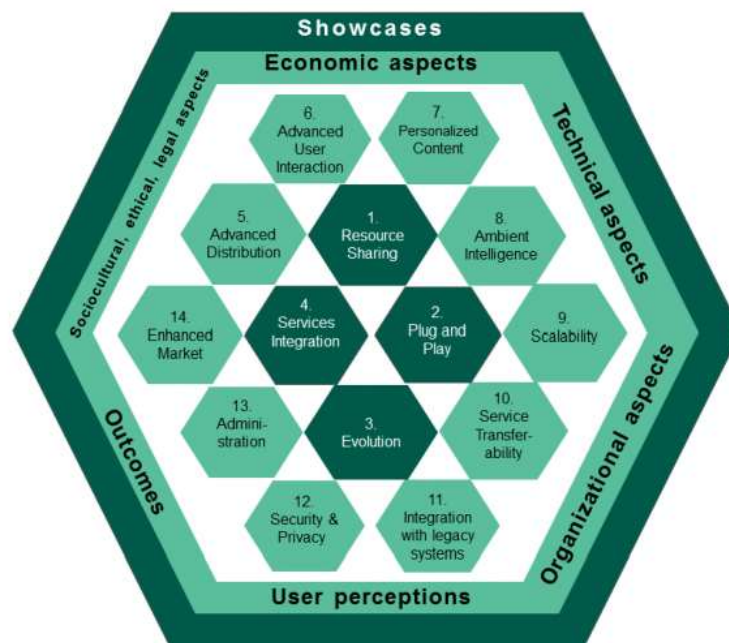
In September 2015, an article has been written with the aims at introducing new ideas for establishing and sustaining the universAAL ecosystem.

The article named 'Vision and Scope of a Large Scale Pilot Project on an Open Platform" -[6]analyses the rationale of the innovative assessment method.

In the *make it ReAAL* project, the intention was to assess the impact of the open source universAAL platform for a massive deployment of AAL services. The impact assessment addressed the socio-economic aspects for all the involved stakeholders. But the main interrogation about an assessment methodology is how the indicators are measured, how they are reliable and valid.

ReAAL replies with an innovative step by creating a set of showcases which could be tangibly tested. This is quite important in terms of marketing.

- Each showcase has an impact on the ecosystem according to each target group as mentioned above.

- Specification of each of this showcase can be used then in order to compare Open platforms.

- At last the showcase approach is a first step towards what could become a Certification process for universAAL_based Application: such an app will be certified only if it respects a minimum set of showcase features.

3.5.3. ReAAL Marketplace Events

Communication is one way to increase the awareness of a product; but a costly way. A more simple method is to draw a motivating instrument for main players. If it succeeds, this method will build the marketing communication based on the multiple players themselves.

Push the Supply rather than the demand. universAAL-based solution providers are the main players in which this process should be grounded.

The market place is the right tool for this incentive process. A market place aggregates products from a wide array of providers. universAAL is inherently designed for interoperability of Apps and IoT. Therefore a supplier can itself promote and sell its own product but it can also buy the components it needs to improve its own App.

The market place will become "naturally" the large communication tool where all stakeholders (end-user, suppliers, policy makers) can find information and products for a growing market.

This principle is depicted on the figure below. Any components related to universAAL platform can be part of the Market place, an App with or without a User Interface, a device driver, or a full system using universAAL.

The market place will become "naturally" the large communication tool where all stakeholders (end-user, suppliers, policy makers) can find information and products for a growing market.

The condition for a market place to exist is a common template describing the component to be sold or exchanged between participants. A first simple template has been defined as below. It contains only the elements useful for a potential purchaser.

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[6] http://reaal.universaal.info/wiki/File:Contribution_toward_ReAAL_Whitepapaer_EN.pdf

What do they need ?
Just an minimum agreement on the ontologies

and full agreement on prices !
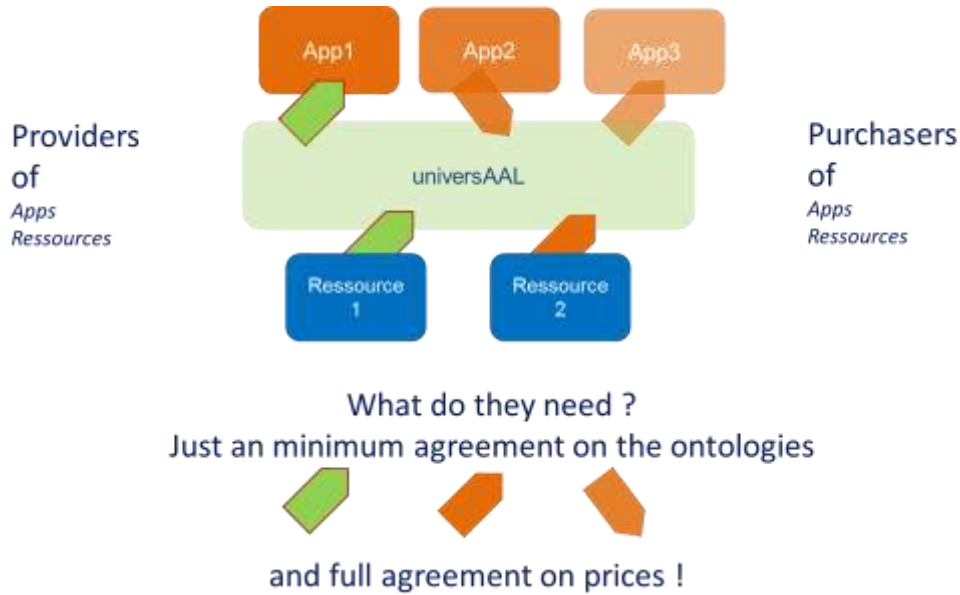
Definitions

- COTS: Commercial-off-the-shelf. This term means any type of components that can be bought and used as it is or with a configuration to tailor it for another use or in another context.

- universAAL Application-COTS (or uA-COTS): means an entire application (including User Interface, business logic, hardware if any) which can be buy to be used in another deployment context.

- universAALised Application Components COTS (uAC-COTS): same as A-COTS but for sub-components of the Application.

- universAALised Device COTS (uD-COTS): same as above for a sensor/actuator already universAALised (with the adapted uAALised drivers. For instance a blood-pressure monitor with the software implementing as a uAAL context publisher

Domain		Name of the Application	
SPECIFY HERE THE DOMAIN WHERE YOUR COTS *belongs* (BE SPECIFIC…SMART HOME , HEALTH,)		COTS NAME	
Contact Point	Organisation	Contact email	Skype id.
Application COTS			
Name	Type	Short Description	
Components COTS			
Name	Type	Short Description - Data Published	
Devices COTS			
Name	Type	Short Description - Data Published	
RoadMap – Your Expectation from Market Place			

Two market place events have been organised during two exhibition and conference events. The choice to have a market place event during such public events was to have both meeting between partners and meeting with potential external entities.

IoT World Paris – 22/ 23 March 2016

The ReAAL project organised a booth with 7 partners : Fraunhofer, TRIALOG, University of Valencia 'ES) TSB (ES) NSCR./ Syndesis (GR) Virtech (IT), TEA (ES), Smart Homes (NL).

Service Providers expects to get access to existing and proved solutions and applications that could be easily integrated to their legacy systems. A label 'universAAL conformance' can motivate them to be part of the ecosystem.

The universAAL booth at IoT World Paris.
On the right, Laure de La Raudière, French Deputy Parliament in charge of the digital innovation

A conference about the role of the open source universAAL (by Bruno Jean-Bart – TRIALOG) has been also possible with a large influence. A lot of people interested in learning more about universAAL as an IoT platform.

eHealth Week Amsterdam -8-10 June 2016

The ReAAL project organised a booth with 6 partners: Fraunhofer, TRIALOG, University of Valencia 'ES), NSCR./ Syndesis (GR), Mibida (NL), Medicine Men (NL). This booth has been the occasion to discuss between partners (Market Place) and to have contacts with about 40 companies interested to discuss the value propositions of the Open Source universAAL in liaison with eHealth sectors.

A talk has taken place by Helmi Ben Hmida (Fraunhofer) to explain the value propositions of universAAL in the Market Place framework.

3.5.4. universAAL Web Sites

The ReAAL project has created two new web sites dedicated to

1° the universAAL promotion (www.universaal.info) and

2° the main lessons learned from the ReAAL project collected within the Knowledge Portal (reaal.universaal.info)

3.5.5. **External marketing service**

As indicated in Section 2.2.1, ReAAL Advisory Board had recommended to recruit a professional "salesman" for the marketing of the coalition in order to make sure that the coalition will have a successful launch. ReAAL Steering Board approved this recommendation and delegated its implementation to T6.3.

For the purchase of this kind of service, the following steps were followed:

* The purchase unit of Fraunhofer was consulted about the procedure; it was confirmed that this kind of contract can be classified as service purchase and not subcontracting. In addition, there was need for at least three offers.

* In the meanwhile, a Call for Support was prepared (see Appendix C, Section C.1) and the consortium was invited to nominate candidates. These have been: www.creativeskillsforlife.com, www.t-6.it and hwww.zeitform.de. Their offers can be found under Sections C.2 to C.4 in Appendix C.

* T6.3 interviewed all the three tenderers and finally decided to accept the offer by Creative Skills for Life (CSL), not only because it was financially the cheapest one but also it promised to create links between our community and the initiative of the EU Commission called "Neighbourhoods of the Future" with the linked series of roadshows[7], as a platform for achieving a wider involvement of relevant stakeholders.

At the time of closing this deliverable, the activities and results can be summarized the following way:

* Initial meeting in Darmstadt, several telcos (mostly weekly) for following up with the work items, and participation in the consortium plenary meeting in Bari, Italy

* Intensive work on the vision and mission statements as well as the shortest definition for universAAL as included in Section 2.2.3

* Participation together with T6.3 in the workshop organized by the Commission's "Common Exploitation Booster" services and cooperation in team w.r.t. the definition of the lean business model canvases as included in Appendix B

* In the context of the Commission's initiative "Neighbourhoods of the Future": Coordination of the participation of the universAAL community in

  o the initial "meeting of minds", with Saied Tazari from Fh-IGD as a "Provocateur" in one of the parallel sessions

  o the first roadshow in London, with a presentation by Bruno Jean-Bart from TRIALOG followed by a panel discussion, and a parallel session led by him and Alvaro Fides from UPV

  o the third roadshow in Bilbao, with a presentation by Bruno Jean-Bart from TRIALOG followed by a panel discussion also including Saied Tazari from Fh-IGD

* preparing for a universAAL hackathon in the roadshow that will take place in the context of the AAL Forum 2016 in St. Gallen, Switzerland

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[7] http://ec.europa.eu/research/innovation-union/index_en.cfm?section=active-healthy-ageing&pg=smart-home-roadshow

- organization of work towards relaunch (a revision to follow) of the universaal.info site, including

    o interviewing Web designers and word writers

    o collecting information as input to the selected Web designers as included in Section C.5 in Appendix C

4. Next Steps

As soon as the business plan, the roadmap, as well as the statutes and bylaws of the universAAL IoT Coalition outlined in Section 2 are finalized within T6.3, these documents will be made public and a call for founding partners will be set and sent to the whole set of organizations in the universAAL ecosystem (original partners of the EU project universAAL, former AALOA supporters, EIP-AHA participants, ReAAL consortium members and the satellite organizations around it, etc.). Feedback will be accepted and applied only from the legal departments of the organizations involved in T6.3. In parallel, the statutes will be sent to the Belgian notary service for finalization. As soon as these two parallel threads of activities converge and the set of founding organizations is determined, the Coalition will be registered legally. Further steps are going to be defined as the Coalition roadmap that will be made public.

T6.3 strives to perform these activities with the following schedule:

- Finalization of the documentation by the end of July 2016

- Determination of the founding members and finalization of the legal statutes by the end of August 2016

- Registration of the Coalition as an international association in Brussels by mid of September 2016

- First announcement in a public event at AAL Forum, 26-28 September, St Gallen

Appendix A – Intermediate Result: Governance

A.1 Introduction

The text in this introduction is taken and adapted from deliverable 8.1 of the universAAL FP7 project.

A.1.1 Infrastructure software and communities

The greatest part of software that universAAL has released is *infrastructure software*, that is software that serves as the base for end-user products by providing low-level services to higher-level software. In practice, the *middleware* that universAAL has designed is for AAL environments very similar to what a classical *operating system* is for a computer-based office environment. Infrastructure software tends to become a commodity in the long run, and successful infrastructure software tends to accelerate this process, so that the "long run" can become too short to make any profit. A community that takes care of the software can be a solution to the dilemma. Here we briefly explain why.

A.1.2 Infrastructure software as commodity

A commodity is some good for which there is a large demand, but which is supplied without qualitative differentiation across a market. It is fungible, i.e. the same no matter who produces it. Examples are petroleum, notebook paper, milk or copper.

 Successful infrastructure software tends to become a commodity. In fact:

- infrastructure software should be *widely adopted* to be of any use
- wide adoption implies the use of one or more stable *standards*
- standards should be or become *open* for people to adopt them
- *widely used software based on standards is going to become a commodity*, because many software houses will be interested in implementing the open standard

Nothing of this is automatic, but the above points give the description of a common trend.

A.1.3 Developing commodity software

Developing commodity software is risky business. The main problem is that commodity software licence markets are inefficient:

- development costs are high, because infrastructure software is complex
- marginal cost of reproduction of software is zero, so the market for software licences grants diminishing returns, going to zero in the long run
- "race horse effect" or "winner-takes-all effect" makes this market risky and requires higher initial investments than what would be required to just implement the software

The "race horse effect" is what happens in situations where there is no use being second: the winner takes it all, so all competitors are pushed to spend more than

they would spend in a market where all the competitors get a share more or less proportional to the effort invested. This is dangerous, because effort is going to be greater right from the start, yet returns are aleatory.

A.1.4 Coopetition

To approach this risky business environment it is necessary to think differently than in traditional markets. First, high development costs can be divided between *cooperating competitors*. This business model is called *coopetition*, and works well in those types of markets where the costs of the infrastructure can be shared in a cooperative way, while the returns on investment are obtained from the proprietary products that are built upon the infrastructure.

A.1.5 Why FLOSS

Coopetition in the software field is naturally based on FLOSS licensing models. The main reason is that the commodity software licence market is inefficient. As we stated above, commodity software is necessarily based on standards, very often open standards to facilitate adoption. This means that competitors have a low barrier to entering the market, and the vanishing marginal cost of software copies makes prices go down and returns go down with them.

The inefficiency of the commodity software licence market is avoided by avoiding the proprietary licensing model: adopting free / libre / open source (FLOSS) licences bypasses most of these problems and lays the basis for coopetition. Cooperating on a sound legal basis such as the one granted by established FLOSS licences is easier and gives confidence to the participants, who know from the start how they will have access to the results of the joint effort. It also gives confidence to adopters of the technology, who know that the providers have only limited control on the technology, which is free to be maintained by other providers.

Most important of all is that, after initial development, a properly managed FLOSS development strategy has the potential to spread the high maintenance and evolution costs among a multiplicity of stakeholders: a *community*.

A.1.6 Brief history of FLOSS evolution

Free software was born more than thirty years ago. It was a hackers' invention, and thrived in hackers' communities. Then came the Internet, Linux, the Open Software Initiative, and free software went mainstream. In the meantime, there were discussions about the meanings of *free software* versus *open source*. These discussions are relative to the ideals and the purposes of the communities behind them, and are not important for us, at least in the beginning. In fact, form a legal point of view, only the software licence counts, and this is the reason why we use the term FLOSS to indicate software distributed with source and licences that allow free use for any purpose, copying, modification and redistribution in either unmodified or modified form.

When the pioneer times gave place to the initial diffusion of FLOSS, the original loosely coupled communities of enthusiasts expanded to allow for a more varied span of participants, and in this expansion they shifted to a different community model. Associations were born that gave support to strongly integrated communities of individuals, working on their own time or paid by an employer: the Apache foundation is an example of this second generation FLOSS organization. Recently, the shift has begun to a third generation of organisations, gathering diverse

stakeholders, from the individual enthusiast, to the employed programmer to representatives from industry, users and other communities. What we have described is a clear-cut division which does not exist in reality, but is a useful scheme to understand the evolution in time and the differentiations between different communities and FLOSS organisations.

A.1.7 The role of a legal organisation behind the community

Ever since the pioneeristic times of the birth of the GNU project, when practically all contributors were volunteers, the need for a legally sound orgrnisation arose. In that case, the FSF (Free Software Foundation) took the task of providing servers for various development-related tasks, an organisation for coordinating projects, a legal framework for copyright assignment and legal counselling and protection. Moving towards a community comprised of different stakeholders such as individual programmers, policy makers and company representatives needs a more complex organisation to sustain the community. An independent association or a foundation has the capacity of sustaining the community and to give a clear message of independency of particular interests.

A.1.8 Examples of FLOSS organisations

Today, several organisations exist whose purpose is fostering a community that is devoted to one or more specific software projects. Here is a partial list of those that are specifically business oriented and have a governance that is similar to the one planned for universAAL, as detailed in the rest of this document.

- The **Blender Foundation**, based in the Netherlands, which was born to support the Blender 3-D rendering program. It collected 100.000 € donations to open-source Blender in 2002, and now funds developers and projects on an individual basis. The business model consists in giving public recognition to recurring sponsors.
- The **Django Software Foundation**, based in the USA, supports development of the Django Web framework. Founding comes from Corporate Members with three different levels of support (Platinum, Gold, Silver) who pay annual fees and establish the foundation direction, while Developer Members are individual devoted to coding.
- The **Eclipse Foundation**, based in the USA, stays behind the Eclipse programming environment. It is funded by annual dues from its *members* and governed by a *Board of Directors*. *Strategic Developers* and *Strategic Consumers* hold seats on this Board, as do representatives elected by Add-in Providers and Open Source committers. The Foundation employs a full-time professional staff to provide services to the community but does not employ the open source developers, called committers, which actually work on the Eclipse projects. Eclipse committers are typically employed by organizations or are independent developers that volunteer their time to work on an open source project
- The **FreeBSD Foundation**, based in the USA, supports the development of the FreeBSD operating system. Funding is based entirely on donations.
- The **Mozilla Foundation**, based in the USA, was founded in 2003 by AOL as a way to support the Mozilla Application Suite, with an initial funding of 2 million dollars. Since 2005, it owns the **Mozilla Corporation** subsidiary, which is also non-profit organisation with commercial activities with businesses. Most income up to 2014 came from Google, the default search engine on Firefox, and since

then from Yahoo. The Mozilla Foundation additionally receives significant donations from all over the world.

- The **OW2 Consortium** promotes the development of open-source middleware, generic business applications and cloud computing platforms. Governance is complex and involves several membership types, open to individuals, commercial and academic entities who support the consortium through an annual fee.

A.2 universAAL Open Source Software Community Governance

This section builds on the adaptation of the "Meritocratic governance model" by Ross Gardler and Gabriel Hanganu, which is distributed under CC-SA license (Creative Commons Attribution-ShareAlike 4.0 International License). This means that this section of D6.4, publicly available, is distributed under the same license.

A.2.1 Overview

This is a meritocratic, consensus-based community. Any individual, with an interest in universAAL can join the community, contribute to universAAL design and participate in the decision making process. This document describes how that participation takes place and how to set about earning merit within the community.

A.2.2 Roles and Responsibilities

Users

Users are community members who have a need for the universAAL platform. They are the most important members of the community and without them universAAL would have no purpose. Anyone can be a user; there are no special requirements.

User contributions enable the community to ensure that they are satisfying the needs of those users. Common user contributions include:

- evangelising about the universAAL (e.g. a link on a website and word-of-mouth awareness raising)
- informing developers of strengths and weaknesses from a new user perspective
- providing moral support (a 'thank you' goes a long way)
- providing financial support (the software is open source, but the maintenance of the community needs donations for the support of its infrastructures)

Users who continue to engage with universAAL and its community will often become more and more involved. Such users may find themselves becoming contributors, as described in the next section.

Contributors

Contributors are community members who contribute in concrete ways to universAAL. Any individual can become a contributor, and contributions can take many forms. There is no expectation of commitment to universAAL, no specific skill requirements and no selection process.

In addition to their actions as users, contributors may also find themselves doing one or more of the following:

- supporting new users (existing users are often the best people to support new users)
- reporting bugs
- identifying requirements
- providing graphics and web design
- programming
- assisting with project infrastructure
- writing documentation
- fixing bugs
- adding features

Contributors engage with universAAL through the issue tracker and mailing list, or by writing or editing documentation. They submit changes to universAAL itself via patches, which will be considered for inclusion in universAAL by existing committers (see next section). The developer mailing list is the most appropriate place to ask for help when making that first contribution.

As contributors gain experience and familiarity with universAAL, their profile within, and commitment to, the community will increase. At some stage, they may find themselves being nominated for committership.

Committers

Committers are community members who have shown that they are committed to the continued development of universAAL through ongoing engagement with the community. Committership allows contributors to more easily carry on with their project related activities by giving them direct access to universAAL's resources. That is, they can make changes directly to project outputs, without having to submit changes via patches.

This does not mean that a committer is free to do what they want. In fact, committers have no more authority over universAAL than contributors. While committership indicates a valued member of the community who has demonstrated a healthy respect for universAAL's aims and objectives, their work continues to be reviewed by the community before acceptance in an official release. The key difference between a committer and a contributor is when this approval is sought from the community. A committer seeks approval after the contribution is made, rather than before, and by lazy consensus.

Seeking approval after making a contribution is known as a commit-then-review process. It is more efficient to allow trusted people to make direct contributions, as the majority of those contributions will be accepted by the project. universAAL employs various communication mechanisms to ensure that all contributions are reviewed by the community as a whole. By the time a contributor is invited to become a committer, they will have become familiar with universAAL's various tools as a user and then as a contributor.

Any individual can become a committer; there are no special requirements, other than to have shown a willingness and ability to participate in universAAL as a team player. Typically, a potential committer will need to show that they have an understanding of universAAL, its objectives and its strategy. They will also have provided valuable contributions to universAAL over a period of time.

New committers can be nominated by any existing committer. Once they have been nominated, there will be a vote by universAAL management committee (uMC; see below). Committer voting is one of the few activities that takes place on universAAL's private management list. This is to allow uMC members to freely

express their opinions about a nominee without causing embarrassment. Once the vote has been held, the aggregated voting results are published on the public mailing list. The nominee is entitled to request an explanation of any 'no' votes against them, regardless of the outcome of the vote. This explanation will be provided by the uMC Chair (see below) and will be anonymous and constructive in nature.

Nominees may decline their appointment as a committer. However, this is unusual, as universAAL does not expect any specific time or resource commitment from its community members. The intention behind the role of committer is to allow people to contribute to universAAL more easily, not to tie them in to universAAL in any formal way.

It is important to recognise that committership is a privilege, not a right. That privilege must be earned and once earned it can be removed by the uMC (see next section) in extreme circumstances. However, under normal circumstances committership exists for as long as the committer wishes to continue engaging with universAAL.

A committer who shows an above-average level of contribution to universAAL, particularly with respect to its strategic direction and long-term health, may be nominated to become a member of the uMC. This role is described below.

universAAL management committee

universAAL management committee consists of those individuals identified as 'project owners' on the development site. If there is more than one individual of the same company or organisation in the uMC, only one company representative is allowed to vote. A company representative is the authorized individual that can act on behalf of a group of individuals from the same company. The uMC has additional responsibilities over and above those of a committer. These responsibilities ensure the smooth running of universAAL. uMC members are expected to review code contributions, participate in strategic planning, approve changes to the governance model and manage the copyrights within universAAL outputs.

Members of the uMC do not have significant authority over other members of the community, although it is the uMC that votes on new committers. It also makes decisions when community consensus cannot be reached. In addition, the uMC members have access to universAAL's private mailing list and its archives. This list is used for sensitive issues, such as votes for new committers and legal matters that cannot be discussed in public. It is never used for project management or planning. The uMC also manages the monetary donations made to the community, in order to keep the infrastructures of the community available and working, such as servers, website, internet connection, etc.

Membership of the uMC is by invitation from the existing uMC members. A nomination will result in discussion and then a vote by the existing uMC members. uMC membership votes are subject to consensus approval of the current uMC members. The decision making process is described below.

uMC Chair

The uMC Chair is a single individual, voted for by the uMC members. Once someone has been appointed Chair, they remain in that role until they choose to retire, or the uMC casts a two-thirds majority vote to remove them.

The uMC Chair has no authority over other members of the uMC: the role is one of coordinator and facilitator. The Chair is also expected to ensure that all governance

processes are adhered to, and has the casting vote when universAAL fails to reach consensus.

A.2.3 Support

All participants in the community are encouraged to provide support for new users within the universAAL management infrastructure. This support is provided as a way of growing the community. Those seeking support should recognise that all support activity within the universAAL is voluntary and is therefore provided as and when time allows. A user requiring guaranteed response times or results should therefore seek to purchase a support contract from the universAAL legal entity. However, for those willing to engage with universAAL on its own terms, and willing to help support other users, the community support channels are ideal.

A.2.4 Contribution Process

Anyone can contribute to the project, regardless of their skills, as there are many ways to contribute. For instance, a contributor might be active on universAAL mailing list and issue tracker, or might supply patches. There is a range of roles to contribute, these include:

- providing feedback
- helping new users
- recommending the project to others
- testing and reporting or fixing bugs
- requesting new features
- writing and updating software
- creating artwork
- writing or updating documentation
- translating

The developer mailing list is the most appropriate place for a contributor to ask for help when making their first contribution.

A.2.5 Decision Making Process

Decisions about the future of universAAL are made through discussion with the members of the Board of Directors of the legal entity representing the community (see section 4.3). All non-sensitive project management discussion takes place on the project contributors' mailing list. Occasionally, sensitive discussion occurs on a private uMC list.

In order to ensure that universAAL is not bogged down by endless discussion and continual voting, the project operates a policy of lazy consensus. This allows the majority of decisions to be made without resorting to a formal vote.

Lazy consensus

Decision making typically involves the following steps:

- Proposal
- Discussion
- Vote (if consensus is not reached through discussion)
- Decision

Any community member can make a proposal for consideration by the community. In order to initiate a discussion about a new idea, they should send an email to universAAL contributors' list or submit a patch implementing the idea to the issue tracker (or version-control system if they have commit access). This will prompt a review and, if necessary, a discussion of the idea. The goal of this review and discussion is to gain approval for the contribution. Since most people in the universAAL community have a shared vision, there is often little need for discussion in order to reach consensus.

In general, as long as nobody explicitly opposes a proposal or patch, it is recognised as having the support of the community. This is called lazy consensus - that is, those who have not stated their opinion explicitly have implicitly agreed to the implementation of the proposal.

Lazy consensus is a very important concept within the project. It is this process that allows a large group of people to efficiently reach consensus, as someone with no objections to a proposal need not spend time stating their position, and others need not spend time reading such mails.

For lazy consensus to be effective, it is necessary to allow at least 72 hours before assuming that there are no objections to the proposal. This requirement ensures that everyone is given enough time to read, digest and respond to the proposal. This time period is chosen so as to be as inclusive as possible of all participants, regardless of their location and time commitments.

Voting

Not all decisions can be made using lazy consensus. Issues such as those affecting the strategic direction or legal standing of universAAL must gain explicit approval in the form of a vote. Every member of the community is encouraged to express their opinions in all discussion and all votes. However, only uMC members (as defined above) have binding votes for the purposes of decision making.

The table below describes some of the actions that will require a vote. It also identifies which type of vote should be called.

Action	Description	Approval type
Release plan	Defines the timetable and actions for a release. A release plan cannot be vetoed (hence lazy majority).	Lazy majority
Product release	When a release of one of the project's products is ready, a vote is required to accept the release as an official release of the project. A release cannot be vetoed (hence lazy majority).	Lazy majority
New committer	A new committer has been proposed.	Consensus approval of the uMC. In case of not reaching a consensus the uMC chair has the casting vote.
New uMC member	A new uMC member has been proposed.	Consensus approval of the uMC. In case of not

Action	Description	Approval type
		reaching a consensus the uMC chair has the casting vote.
Committer removal	When removal of commit privileges is sought.	Unanimous consensus of the uMC
uMC member removal	When removal of uMC membership is sought.	Unanimous consensus of the uMC
uMC Chair proposal	A new uMC Chair has been proposed.	Consensus approval of two-thirds majority vote of the uMC.
uMC Chair removal	When removal of uMC Chair is sought.	Consensus approval of two-thirds majority vote of the uMC.

A.3   The universAAL Coalition Governance

A.3.1 Overview

This section provides the general guidelines of the necessary documents for establishing a non-profit legal entity, in the form of Association or Foundation. These documents, the legal statute and the bylaws are not final documents as some legal decisions are going to be taken in the following months. These legal decisions are mainly the election of the country where the legal entity will be registered and the type of legal entity: Foundation or Association.

A.3.2 Legal Statute

As the legal statute is a legal document which details are deeply dependent on the chosen legal form and chosen country, it will be defined with the help of a legal expert when these legal decisions are taken.

Purpose

Anyhow the purpose of the non-profit organisation to be founded is to represent the universAAL open source community legally, organize funds for the maintenance and further development of universAAL, and promote its usage. Its mission is to ensure the sustainability of the universAAL open Platform enlarging the ecosystem around it.

Remaining statute articles

The rest of the statute articles will be modeled based on the below detailed bylaws.

A.3.3 Bylaws

Article I: Denomination, Aims, Address and Scope

Denomination

The name of the legal entity will be: The universAAL IoT Coalition.

Founders

The organisations founders of the legal entity are: Fraunhofer-IGD (Germany), Sabien-University Polytechnic of Valencia (Spain) and Life Supporting Technologies-University Polytechnic of Madrid (Spain).

Purpose

The mission of the legal entity is: To ensure the sustainability of the universAAL open Platform enlarging the ecosystem around it.

Objectives

The objectives of the entity are:

- To represent and speak on behalf of the universAAL open Platform community.
- To promote the usage of semantic open Platform universAAL in the different domains addressed by IoT and AAL.
- To provide funding and support to the universAAL open source community to continue maintaining the platform, same developing and spreading new features in order meet the Market new challenges and requirements.
- To empower the direct involvement of the different IoT communities with innovation projects with the mission to stimulate the usage of IoT and AAL open source platform universAAL around the word.
- To enable a profitable business model and the dedicated added value of the platform depending on the different SOA applied areas and mainly to IoTand AAL.

Activities

The activities promoted by the legal entity are:

- To organise and manage the governance in order to succeed in its mission. This governance will address
  - the technical aspects (a strong and motivated open source community including a certification process to provide a quality assurance to the members),
  - the marketing aspects (a strong and ambitious roadmap to the market including communication events),
  - the funding aspects to provide means to manage correctly the required tasks,
  - the business aspects to enlarge the market targeted by its members.
- To assemble regularly its members in order to discuss the governance in its four facets.
- To be a strong and influent member of the IoT and AAL ecosystem in order to promote the universAAL open source as well as the products and components of its members. In order to meet this objective, the legal entity will take dedicated and coordinated measures to be part of standard organisations or allied member of such organisation.

- To provide services such as technical training and support, certification process, but also marketing services to its members.
- To create, maintain and execute a strong communication strategy on Web and social networks twitter, facebook, etc.

Duration

This legal entity is constituted for an undefined period of time.

Address

The legal entity establishes its social address at (address, country) and it is subject to (country) law.

Article II: Governing bodies of the legal entity

The General Assembly

The General Assembly is the supreme organ of government of the legal entity and is composed by all the representatives of the organisations members of the legal entity, from now on members.

Meetings of the General Assembly

The meetings of the General Assembly can be ordinary and extraordinary. Ordinary meetings will be held once a year, either virtually or in person.

Extraordinary meetings will take place when called by the Board of Directors or one fifth of the ordinary members of the legal entity. Extraordinary meetings will be held either virtually or in person.

Powers of the General Assembly

Faculties of the General Assembly are:

a) To appoint members of the Board of Directors
b) To approve the management of the Board of Directors.
c) To examine and to approve the annual financial accounts of the legal entity.
d) To modify the Statute and Bylaws of the legal entity.
e) To dissolve the legal entity.
f) Anything else than is not of an exclusive power of the Board of Directors.

Right to vote in the General Assembly

Members with a right to vote in the General Assembly will have a valid vote only if they have no outstanding payments due to the legal entity at the time the General Assembly is held, or they have made substantial contributions to the universAAL platform sustainability.

Members may designate a member of the legal entity to act on their behalf during the General Assembly.

Quorum and voting

General Assemblies will be constituted validly in first call when a third of the members with a right to vote, or their representatives, are present at the venue of the meeting. If there is no quorum in the first call, the General Assembly will be validly constituted in a second call, whichever the number of voting members present.

The vote of a majority of the voting members, or their representatives, present at an Assembly shall be the act of the General Assembly.

A qualified majority, that is more than half of present voting members, or their representatives, is required to do the following:

a) To appoint the Boards of Directors.
b) To modify the Statute and/or Bylaws.
c) To dissolve the Association.

Place of meetings

General Assemblies will be held in any place that the Board of Directors deems adequate for this purpose.

Time, Notice and Call of meetings

Calls of the General Assemblies will be made through any generally accepted means of communication, including electronic mail.

The Call of the General Assembly will detail the place, day and hour of the meeting, for the first and second call, as well as the items to be discussed.

The Call must be sent to the members of the association at least fifteen days before the date for the first call of the General Assembly.

The Board of Directors

Powers.

The business and affairs of the Association shall be managed by or under the direction of the Board of Directors, which may exercise all such powers of the legal entity and do all such lawful acts and things as are not by statute or by Bylaws specifically reserved to the members or the General Assembly.

Qualification.

Directors shall be members of the legal entity.

Compensation.

Directors will only receive compensation for the direct expenses incurred in the performance of their duties.

Number.

The legal entity shall have 7 Directors, initially nominated by the Founders.

Election and Term.

Directors nominated by the Founders as members of the initial Board of Directors shall hold office until the first Ordinary General Assembly and until their successors shall have been elected and qualified or until resignation, removal or death.

At the first Ordinary General Assembly and at each Ordinary General Assembly thereafter, the members shall elect directors to hold office until the next annual meeting. Directors shall hold office for the term for which they are elected and until their successors shall have been elected and qualified or until resignation, removal or death.

Resignation and Removal of Directors.

A Director may resign at any time upon written notification to the legal entity. Furthermore, any Director or the entire Board of Directors may be removed, with or without cause, by a decision of the General Assembly or as otherwise provided by the (country) laws.

Vacancies.

Any vacancy occurring in the Board of Directors, including any vacancy created by reason of an increase in the authorized number of directors, may be filled by the affirmative vote of a majority of the remaining directors.

Quorum and Voting.

A majority of the number of Directors fixed in accordance with the Statute and Bylaws shall constitute a quorum for the transaction of business. The vote of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors.

Executive and Other Committees.

The Board of Directors may designate an Executive Committee from among its members and such other committees consisting of at least one Director as determined by the Board of Directors from time to time. Each committee, to the extent provided in such authorizing resolution, shall have and may exercise all the power and authority of the Board of Directors in the management of the business and affairs of the legal entity, as limited by (country) laws.

The Board of Directors, by resolution adopted in accordance with this section, may designate one or more Directors as alternate members of any such committee, who may act in the place and stead of any absent or disqualified member or members at any meeting of such committee. In the absence or disqualification of any member of any such committee or committees, the member or members thereof present at any meeting and not disqualified from voting may unanimously appoint another Director to act at the meeting in the place of any such absent or disqualified member.

Place of Meetings.

Meetings of the Board of Directors may be convened in any real or virtual place that the Board of Directors deems adequate for this purpose. Virtual places must allow real-time interaction (chat, video or telephone conference) such that all participants can hear each other at the same time.

When a meeting of the Board of Directors or of any committee designated by such Board is convened in a real place, members of such Board may participate by conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other at the same time. Participating by such means shall constitute presence in person at a meeting.

Time, Notice and Call of Meetings.

Regular meetings of the Board of Directors shall be held immediately following a General Assembly and at such times thereafter as the Board of Directors may fix. No notice of regular directors' meetings shall be required.

Special meetings of the Board of Directors shall be held at such times as called by the President of the legal entity, or any two directors. Written notice of the time and place of special meetings of the Board of Directors shall be given using the mailing list of the Board of Directors at least two days before the meeting. In case of technical problems with the mailing list, written notice can be given to each Director by either personal delivery, telegram, cablegram, fax or email at least two days

before the meeting, or by notice mailed to each director at least five days before the meeting.

Notice of a meeting of the Board of Directors need not be given to any Director who signs a waiver of notice, either before or after the meeting. Attendance of a Director at a meeting shall constitute a waiver of notice of such meeting and waiver of any and all objections to the place of the meeting, the time of the meeting, or the manner in which it has been called or conveyed, except when a Director states, at the beginning of the meeting, any objection to the transaction of business because the meeting is not lawfully called or convened.

Action Without a Meeting.

Any action required or permitted to be taken at a meeting of the Board of Directors or of any committee thereof may be taken without a meeting if all the members of the board or committee, as the case may be, consent thereto in writing, normally on the Board mailing list, and such writing is filed with the minutes of the proceedings of the board or committee. Such consent shall have the same effect as a unanimous vote.

Director Conflicts of Interest.

No contract or other transaction between the legal entity and one or more of its directors or between the legal entity and any other partnership, association or other organization in which one or more of the Directors of the legal entity are Directors or officers or are financially interested, shall be void or voidable solely because of such relationship or interest or solely because such Director or Directors are present at or participate in the meeting of the Board of Directors or a committee thereof which authorizes, approves or ratifies such contract or transaction or solely because his or her or their votes are counted for such purpose, if:

A. The material facts as to the Director's relationship or interest and as to the contract or transaction are disclosed or are known to the Board of Directors or committee, and the Board of Directors or committee in good faith authorizes, approves or ratifies the contract or transaction by the affirmative votes of a majority of the disinterested Directors, even though the disinterested Directors be less than a quorum; or

B. The material facts as to their relationship or interest and as to the contract or transaction are disclosed or known to the members entitled to vote thereon, and the contract or transaction is specifically approved in good faith by vote of such members; or

C. The contract or transaction is fair as to the legal entity at the time it is authorized, approved or ratified by the Board of Directors, a committee of the Board of Directors or the members.

Common or interested directors may be counted in determining the presence of a quorum at a meeting of the Board of Directors or a committee thereof which authorizes, approves or ratifies such contract or transaction.

Officers.

The officers of the legal entity shall consist of a President, a Secretary and a Treasurer, each of whom shall be elected by the Board of Directors. One or more Vice Presidents, and such other officers and assistant officers and agents as may be deemed necessary may be elected or appointed by the Board of Directors from time to time. Any two or more offices may be held by the same person, except the offices of President and Secretary.

Duties.

The officers of the legal entity shall have the following duties:

A. President. The President shall be chosen among the directors of the legal entity. The President shall be the chief executive officer of the legal entity and shall have general and active management of the business and affairs of the legal entity, subject to the direction of the Board of Directors. The President shall act as Chairman of the Board presiding at all meetings of the Board of Directors and members and shall have such other duties and authority as may be conferred by the Board of Directors

B. Vice President. The Vice President, if one is elected, shall, in the absence or disability of the President, perform the duties and exercise the powers of the President. He or she also shall perform whatever duties and have whatever powers the Board of Directors may from time to time assign him or her. If more than one Vice President is elected, one thereof shall be designated as Executive Vice President and shall, in the absence or disability of the President, perform the duties and exercise the powers of the President, including chairing the Board, and each other Vice President shall only perform whatever duties and have whatever powers the Board of Directors may from time to time assign him or her.

C. Secretary and Assistant Secretary. The Secretary shall keep accurate records of the acts and proceedings of all meetings of the members and directors. The Secretary shall give all notices required by law and by the Statute and Bylaws. In addition, the Secretary shall have general charge of the corporate books and records and of the corporate seal, and he or she shall affix, or attest the affixing of, the corporate seal to any lawfully executed instrument requiring it. The Secretary shall have general charge of the membership records of the legal entity and shall keep, at the registered or principal office of the legal entity, a record of the members showing the name, address, telephone number, fax number and electronic mail address of each member. The Secretary shall sign such instruments as may require his or her signature and, in general, shall perform all duties as may be assigned to him or her from time to time by the Chairman, the President or the Board of Directors. The Assistant Secretary, if one is appointed, shall render assistance to the Secretary in all the responsibilities described above.

D. Treasurer and Assistant Treasurer. The Treasurer shall have custody of all corporate funds and financial records, shall keep full and accurate accounts of receipts and disbursements and render accounts thereof at the annual meetings of members, and shall perform such other duties as may be prescribed by the Chairman, the President or the Board of Directors. The Treasurer will also be responsible for the allocation of resources for the universAAL Open Source Sofware community. The Assistant Treasurer, if one is appointed, shall render assistance to the Treasurer in all of the responsibilities described above.

Election and Term.

The officers of the legal entity shall be appointed by the Board of Directors or appointed by an officer empowered by the Board to make such appointment. Each officer shall hold office for a period of one year or until earlier resignation or removal.

Removal of Officers and Project Managers.

Any officer elected or appointed by the Board of Directors may be removed by the Board whenever, in its judgment, the best interests of the Association will be served thereby.

Vacancies.

Any vacancy, however occurring, in any office may be filled by the Board of Directors.

Compensation.

The compensation, if any, of all officers of the legal entity shall be fixed by the Board of Directors and may be changed from time to time by a majority vote of the Board of Directors.

The President shall have authority to fix the salaries, if any, of all employees of the legal entity, other than officers elected or appointed by the Board of Directors.

Article III: Members

Acquiring member status

The legal entity is open to any legal organisation with interest in the development of the aims of the legal entity.

The Board of Directors shall establish the procedure to become a member of the legal entity.

Legal organisations that become members of the legal entity shall name a physical person who will act on its behalf.

Rights and duties

All members have a duty to:

a) Comply with the Statute and Bylaws and any valid resolution from the General Assembly or the Board of directors.
b) To act in good faith towards the legal entity and, when occupying a position within the legal entity, to act in the best interests of the legal entity.

All members have a right to:

c) Participate in the activities of the legal entity.
d) Enjoy all the advantages and benefits of membership of the legal entity.
e) Assist to the General Assemblies.
f) Receive information on the agreements adopted by the Governing bodies of the legal entity.

Types of members

There are two types of members:

a) Ordinary members
b) Supporting members

Ordinary members

Ordinary members contribute to the development of the activities of the legal entity and provide financial support in the form of membership fees.

The Board of Directors may establish different categories of Ordinary members.

The Board of Directors may establish that different categories may have different membership fees and be allocated a number of positions within the Board of Directors and any other Committee and position within the legal entity.

In addition all member's duties, Ordinary member have a duty to pay the membership fees.

In addition all member's rights, Ordinary members have the right to elect three of the seven Directors during each General Assembly.

Supporting members

Supporting members contribute to the development of the purpose and activities of the legal entity.

In addition all member's rights, Supporting members have the right to elect four of the seven Directors during each General Assembly.

Termination of membership

Termination of membership may occur by voluntary resignation of the member or, if the Board of Directors so decides, when:

a) An ordinary member fails to pay the fees due to the Association.
b) A member commits a serious breach of the Statute or Bylaws or of any resolution of the General Assembly or the Board of Directors.

Article IV: Assets and dissolution

Resources of the Association

The legal entity will pursuit the development of the aims and activities of the legal entity by using any economic resources at its disposal, such as:

a) Membership fees.
b) Donations, legacies or inheritances.
c) Income obtained from the activities of the legal entity.
d) Any other resource allowed by the law.

The legal entity has no resources at the moment of its foundation.

Cause of dissolution

The legal entity will voluntarily dissolve when a General Assembly so decides or when it incurs in any legal cause of dissolution.

Liquidation of the assets of the Association

The Board of Directors appoints one or more liquidators in charge of the liquidation of the assets and liabilities of the legal entity. The liquidators are in charge of carrying out the formalities of declaration and publication required by the law and regulations that apply.

Upon dissolution of this legal entity, and after all of the known debts and liabilities of this legal entity have been paid or adequately provided for, any remaining net assets of this legal entity shall be distributed by the Board of Directors to one or more organizations selected by the Board of Directors which will help to further the purposes of this legal entity and entitled by law to receive such assets (especially those officially recognized as serving the public interest), with the exception of the Members of the legal entity.

Article V: Administrative sections

Associative and financial exercise

The associative and financial exercise will be annual and its closing will take place the 31 of December of every year.

Means of communication

The legal entity can use electronic means of communication, such as email, to communicate with its members. Email shall be a valid form of notification. The legal entity may use email to provide members with information related to the activities of the legal entity.

Personal Data protection

The legal entity is entitled to use the personal data of its members exclusively as far as is necessary for carrying on the activities of the legal entity.

Copyright management

A copyright assignment to universAAL legal entity will be requested of all contributors (see section 4.2). This copyright assignment to universAAL legal entity allows it to distribute the contribution and that the contributor has the right to do so as far as copyright and patents are concerned. The uMC will do the bookkeeping of all the assignments (see section 4.2).

Use of Names

Any Member may disclose and publicize such Member's Membership in the legal entity. Unless requested to the contrary in writing by a Member at the time of application to the legal entity for Membership, the legal entity may publicize such Member's Membership in the legal entity.

Legal Compliance

Members agree to comply at all times with all applicable laws, rules and regulations with respect to their performance under the Statute and Bylaws. The Members understand that in certain lines of business they may be competitors and that it is imperative that they and their representatives act in a manner which does not violate any applicable antitrust law and regulation.

Indemnification of Officers and Directors

The legal entity shall indemnify any person made or threatened to be made a party to an action by or in the right of the legal entity to procure a judgment in its favor by reason of the fact that he/she, his/her testator or intestate is or was a director or officer of the legal entity, against amounts paid in settlement and reasonable expenses, including attorneys' fees actually and necessarily incurred by him in connection with the defense or settlement of such action or in connection with an appeal therein, except in relation to matters as to which such person is adjudged to have breached his duty to the legal entity.

Applicable Law - Dispute Resolution

The Statute and Bylaws shall be construed in accordance with the laws of (country). Each Member agrees to submit to the sole courts of the jurisdiction where the legal entity has its registered office for the purposes of any suit, action or other proceedings arising out of the Statute and Bylaws.

In all matters not included in the Statute and Bylaws the (country) law shall apply.

Appendix B – Intermediate Result: Lean Business Model Canvases

B.1 Focused on Solution Providers as Early Adopters

The Business Model Canvas

Designed for: universAAL Coalition

Designed by: ReAAL, T6.3 team

On: 27/06/2016

Iteration #

Problem

1-Organization barriers
-Missing clear role and precise added value of the coalition

2-Technology Barriers
Standard usage restrictions
Incompatibility of solutions
Lack of guarantee of solutions reliability, stability BUT also COMPATIBILITY
Lack of fair and deep evaluation of the solutions
1

4-Economical barriers
Lack of active marketplace
Lack of knowledge exchange

Solution
-Collect, assess, suggest quality improvement direction
-Port the best and sustainable solution to the platform
-Suggestions of solutions as a part of the catalog (Marketplace) for the public admin....
Common online marketplace (uAAL-IoT Store...)

Key metrics
- Store stats (#apps #downloads, #users, ...)
- Members (2 tiers)
- Big data (analytics)

Unique value proposition
-Find the right Driver for solution exploitation (Reach customer)
-Better market for the future with social impact
-Feedback about the application quality => Quality assurance
-Improvement of the solution quality
-Ability to port solutions on the platform (in order to accelerate the critical mass)

Unfair advantage
can't be easily copied or bought
- 100M€ + 10+years of R&D
- Big Data (collection)

Channels
path to customers
-Common online marketplace (uAAL-IoT Store...)
-Public service providers
-Local authorities

Customer Segments
target customers

ICT solutions providers

1-Application developer (Develop app for business and customer end use)

2-Deployers: The ones that install systems in the end user environment

3-Infrastructure provider (Like clouds providers)

Cost Structure
What are the most important costs inherent in our business model?
Which Key Resources are most expensive?
Which Key Activities are most expensive?

Marketing is the most important, required to attract members and customers

Services to members: personnel who performs quality assessment and develops and maintains uAAL-IoT Store

Revenue Streams
For what value are our customers really willing to pay?
For what do they currently pay?
How do they currently pay?

Membership fee (500€ to 1% of member's revenue) which includes assessment, porting to uAAL, entering the application store
Additional fees for quality assessment
Additional fees to enter our application store

Ash Maurya's lean canvas adaptation of the original google draw template by schumology.net based on the work of Alexander Osterwalder (businessmodelgeneration.com) - Lucas Cervera (lucascervera.com)

B.2 Focused on Real Estate Developers as Early Adopters

The Business Model Canvas

Designed for Service Providers

Designed by: Bruno, Florian, Pilar, Richard & Saied

On: 10 July 2016
Iteration #3

Problem

1. Not easy to provide interoperable added-value services that generate recurring revenues

2. Lack of differentiation (own USP / UVP)

3. Ensure a long-term ICT infrastructure
- planning with right technical choices enabling the integration of solutions from different suppliers implementing with certified suppliers

Existing alternatives

1 & 2: Isolated closed solutions existing in market

2: Using established innovation from other sectors, e.g. energy/"green"

3: Brands mostly imposed by their suppliers.

3: Consult associations

3: Avoid ambition

Solution

* Serving as an innovation marketplace for members to (a) find innovative suppliers with proven success stories and (b) develop solution partnerships

* Ensuring direct connection to the development of global standards, EU policies & related roadmaps based on the recognized status of universAAL in EU

* Providing certification for products, services & members of the universAAL IoT innovation ecosystem as guarantee for interoperable solutions & multi-vendor smart living environments

* Mutual learning by (a) demonstration of success stories, and (b) knowledge transfer, e.g. via training courses

* Leveraging private investment for the enlargement of the universAAL IoT innovation ecosystem by organizing competitions and prizes

Key metrics

1. Number of members
2. Number of sponsors
3. Number of certifications
4. Marketplace size (# of products / services / partnerships)
5. Number of events
6. Number of contracts of each type

Unique value proposition

The universAAL IoT Coalition is the only international association providing its members with:

* Privileged access to:
- certified interoperable IoT applications with proven TRL for multi-vendor smart living environments, with tested business cases for new services that generate recurring revenues,
- certified smart living planners in charge of future proof ICT infrastructures to complement the electrical planning team, supervise the craftspeople and approve the installations;
- pre-information on new standard and regulations in Europe with possibility to influence them.

* Matchmaking opportunities with most important technological players and business partners

* Visibility towards the most important associations of end users (citizens)

Unfair advantage

1. Access to universAAL, worth over 500.000 hours of software development
2. Unique repository of 31 innovative solutions in operation in 13 cities of 8 countries involving 60 organizations & over 6000 end users
3. Ultimate knowledge and experience of both 1 & 2 by having the key players as founding members

Channels

Associations of real estate stakeholders to spread the innovation culture

Professional fairs to address common barriers for innovative buildings and demonstrate the Coalition's solutions for them

Direct interaction

The Website of the Coalition's marketplace with highlighted success stories to serve as a main marketing means

Customer Segments

Real Estate Developers: usu. focused on own national market (e.g. AJT)

Insurances for real estate & (social) safety & security, many focused on own national market; some larger ones on whole EU market (e.g., MACIF)

Care providers, usu. focused on regional market (e.g., TEA)

Early adopters:

Innovative real estate developers in wealthier EU countries (DE, NL, FR) that are recognizing that traditional business is not future proof any more which contradicts with the long-term nature of their investments

E.g.,
NL: HEIJMANS
FR: DOMITYS
DE: HochTief, Zech, NCC

Cost Structure

Personnel, office, equipment, marketing
Most expensive resources: personnel, esp. CEO / CTO
Most expensive activities: marketing
[[other activities: certification, standardization, lobbying, training & other events to organize & run ...]]
Seed phase: CEO (60%) for 60 k€ + CTO for 110 k€ + travel + 10 k€ material + 20 k€ marketing = 100 k€
After 2 years: CEO for 110 k€ + CTO for 100 k€ + other staff for 160 k€ + office for 50 k€ + marketing for 100 k€ + annual event for 40 k€ + reimbursement to councils & supervisory board for 160 k€ + other costs for 30 k€ → 150 k€ for universAAL strategic development in addition to acquired contracts

Revenue Streams

1) membership fees & sponsorships, 2) certification fees for universAAL IoT label, 3) contracts, e.g. for (i) participating in funded projects as a partner (good chance through the EC policy to push the usage of existing open platforms), (ii) consultancy contracts (support, training, coaching, universAALization, developing on top of universAAL), and (iii) platform development contracts (specific versions for specific execution environments, specific features, integration in other frameworks....)
Seed phase: 25 members a 2 k€ membership fee in average + 1 sponsor a 50 k€ = 100 k€
After 2 years: 250 members a 2 k€ membership fee in average + 6 sponsors a 50 k€ + 60 k€ non-dev part of contracts + 40 k€ from certification = 900 k€

Ash Maurya's lean canvas adaptation of the original google draw template by scrumology.net based on the work of Alexander Osterwalder (businessmodelgeneration.com) - Lucas Cervera (lucascervera.com)

Appendix C – External Marketing Service

C.1   ReAAL's Call for Support

Call for Supporting the Launch of "The universAAL Foundation[1]"

Background

AAL and IoT, as open and distributed systems of systems, have great potential for positively influencing the lives of many people. The Lecce Declaration[2], signed by over 200 organizations from over 44 AAL projects in the context of the AAL Forum 2011 in Lecce, Italy, states that common open platforms are essential for the advent of such complex systems. It emphasizes that self-organizing ecosystems emerge around common open platforms, as they facilitate the development of products and services, while ensuring interoperability, financial sustainability, and overall support of end user needs within the ecosystem.

universAAL[3] is the open platform resulted from the consolidation of several preceding open platform approaches in Europe that fits the requirements for open and distributed systems of systems, such as AAL and IoT. It is one of the most mature alternatives with support for semantic interoperability that has already a user base of over 5000 in real life, in 13 different locations in Europe, with 31 applications on top, that realize over 100 different use cases. universAAL is offered with the Apache Software License 2.0, which is one of the most permissive open source and free software licensing models.

In order to take the next step towards universAAL sustainability and ecosystem enlargement, the core contributors of universAAL are preparing for the establishment of a non-profit organization that represents the universAAL open source community legally, organizes funds for the maintenance and further development of universAAL, and promotes its usage. The project currently funding universAAL maintenance[4] is now seeking for professionals who can help to make this launch process a success.

Scope of the Support Needed

We are looking for consultancy support, accompanying us in the launch process until end of June 2016, starting as soon as possible. Activities to be supported include:

- formulation of the foundation's mission and vision in an appealing form
- producing publicity material and efficient presentation of who we are and what we offer (for our pitches and our Web site)
- documenting the business plan, deciding the legal form, defining the bylaws, and documenting critical business processes
- attracting the attention of different types of stakeholders in IoT, AHA and AAL, and motivating them to join the foundation

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[1] The name of the legal entity to launch is not finalized yet; depending on the legal form, "Foundation" as the last word in the name may change to "Alliance" or "Association".
[2] http://publica.fraunhofer.de/documents/N-225288.html
[3] http://universaal.aaloa.org/, http://universaal.info/, https://github.com/universAAL/.
[4] http://cip-reaal.eu/

The most basic forms of collaboration are: reviewing and commenting drafts of documents, challenging the project team to extract and understand the essential information needed for translating such info into a generally understandable language, participating in (virtual) meetings, proactive thinking in finding solutions for challenging questions (such as the business plan), contacting key players and organizing support for the foundation, and the like.

Submission of Offers

Only legal entities are invited to submit their offers to mgmt@cip-reaal.eu, using the subject '*Offer for Supporting the Launch of The universAAL Foundation*'. The list moderator will approve the email for being sent to the list members.

Deadline for sending the offers is 25-Feb-2016, end of the day.

A possible way for making an offer is to specify the number of hours per week to which the organization can commit, along with an hourly rate.

We encourage that a set of key performance indicators are included in the offer. Such indicators should be connected to outcomes expected from the four activity types mentioned in the end of the previous page, e.g. a set of members joining the foundation or confidence to be able to help us to close the business plan by a certain date.

There is no need to allocate any budget for possible travels because in case of need, such travels will be organized by the ReAAL project in order to make sure about the thriftiness.

C.2 Offer by www.creativeskillsforlife.com

CREATIVE SKILLS FOR LIFE

exploring the creative interface between healthcare and technology

univ~ersAAL

Support Agreement

ReAAL Partners
AND
Creative Skills for Life
REGARDING
Launch of The universAAL Foundation

22nd March 2016

Subject to contract

CONFIDENTIAL
NOT FOR DISTRIBUTION

[[content not included]]

The ReAAL project accepts this offer with the following note:

Depending on the actual requirements emerging with the progress of the work, the scope of the work may be adapted accordingly based on mutual agreement.

Mohammad-Reza (Saied) Tazari
Project coordinator
April 1, 2016

IAN SPERO
CREATIVE SKILLS FOR LIFE

C.3   Offer by www.t-6.it

ecosistemi digitali e naturali

To ReAAL Consortium

Rome 25 February 2016

Prot. 03/2016

Offer for Supporting the Launch of The universAAL Foundation

Below you find our offer and types of services for starting up the UniversAAL foundation.

Best regards.

Andrea Nicolai

[[content not included]]

C.4   Offer by www.zeitform.de

zeitform Internet Dienste OHG
Fraunhoferstraße 5
D-64283 Darmstadt
Germany

Tel.: +49 6151 – 155 637
Fax: +49 6151 – 155 634
http://www.zeitform.de
Email: zeitform@zeitform.de

zeitform Internet Dienste OHG   Fraunhoferstraße 5   D-64283 Darmstadt

Saied Tazari

Darmstadt, February 29th 2016

ReAAL project coordinator

Fraunhoferstr. 5

D-64283 Darmstadt

Offer No. 2016032901

In reply to the "Call for Supporting the Launch of 'The universAAL Foundation'"

[[content not included]]

We hope that this offer meets your requirements and expectations and look forward to hear from you very soon.

Best regards,

Thomas Krisch
zeitform Internet Dienste OHG
krisch@zeitform.de

C.5   Info collection for Website

1.   Tell us about your business/organisation: (products/ services, history, employees, structure, location, service area, goals)

The Website should provide high-level info about the open source software platform called universAAL, as intro for all types of stakeholders, before they refer to the following existing technical details:
   1.   Source code

2. The main wiki of the 'platform' repo
3. The Developer Handbook (previously known as Reference Documentation)
4. The Quick Developer Guide
5. The Quick Setup & Start guide for use with Release 3.4.0 (2015-09-15): Windows/Linux Karaf archive

The stakeholders to address are:
1. Solution providers for smart living environments, formerly known as ambient assisted living -- AAL, and other IoT-based open distributed & heterogeneous systems of systems
   - top management: the benefits for the business of these companies
   - CTOs who decide about the technological basis of the developments in their companies
   - developers because if they believe in some technology, they can convince their managers
2. Investors (& their consultants) of larger projects for the deployment of the solutions provided by the above suppliers
   - regional and municipal authorities that would like to get prepared for the socio-economic consequences of the alarming demographic change
   - real estate developers for future-proof blocks of flats
3. Research and innovation projects and their consortia
   - several objectives of H2020 calls of the EU refer to universAAL as a recommended open platform to be used in the proposals
   - even if universAAL provides an answer for many basic challenges, there is still much research potential for for complementary work

There is no single organization with own business strategy behind this Website. The current developers of this software platform are employees of, in alphabetic order, CNR-ISTI, Fraunhofer IGD, UPM-LifeSTech, & UPV-ITACA. However, the Website should stay independently from these organizations as the set of contributors may change over time, even if the level of such dynamism is rather low in open source communities.

The commitment of these organizations to the development of the related software has been bound to the collaborative participation in three subsequent EU projects since 2007 (PERSONA, universAAL and ReAAL). The benefits from this constellation have been threefold: (1) the emergence of a committed open source community that (2) provides an important infrastructure software free of any patent and royalty with (3) an independent character (serving an ecosystem and not bound to any single brand or the business plans of any single organization).

To sustain universAAL, they are creating an open non-profit international association that will have its own Website under universaal-iot.org, but universaal.info is going to remain as pure high-level reference for the software platform itself; both Websites will naturally refer to each other.

2.   Explain what your business does in 10 words or less

Open source platform enabling interoperability and rapid development of innovative IoT solutions

3.   What is your unique selling proposition? Why should someone choose you over your competitors?

Cross-domain integration and mass customization of complex systems of systems made easy by semantic interoperability in practice.

Semantic interoperability is what others talk about in theory and try to work on as an add-on (actually also introducing overhead additional to their conventional methods). In universAAL, semantic interoperability is inherently supported as part of the communication protocols, which removes the need for separate APIs agreed a-priori for each application domain or "system profile".

Agreement on specific APIs leads to "Internet of partnerships", but universAAL liberates the future Internet towards a true Internet of Things across devices, applications, vendors, locations, domains

and deployment strategies.

The general value proposition for the different types of stakeholders:
http://www.universaal.info/wp-content/uploads/universAAL_value-proposition.jpg

Advantages:
- Fully modular, even at the level of platform components
- Loose coupling of modules (no direct dependencies between modules)
- Once bound, a module can be deployed in arbitrary constellations
- Deployment-specific changes only if the module's own logic changes
- Domain-independent data representation & programming model facilitate the implementation of cross-domain use cases

--> Reduces the integration and deployment costs to a minimum

Standardization benefits:
- Separation of concerns (technical details of communication and messaging separated from the domain knowledge)
- One global set of APIs, easier to maintain
- Highest abstraction layer for communication within the Internet of Things
- Multidimensional benefit from ontologies a la universAAL
  - Sharing both data and functionality over same API
  - Looser coupling --> more independence --> surprising interoperability achievements
  - Declarative by nature --> mapping one ontology to another and achieving interoperability without necessarily involving vendors
  - Certain level of intelligence given already at the level of brokerage and by specific platform managers

4. What are the reasons that people should come to your site? (Name 3 in order of importance)

Get an impression of what universAAL is and how their business would benefit from it
Find out how to get in touch with the universAAL community and interact with them
Learn how to access the resources (software, documentation, support) with which usage licenses

5. What is the main thing you want people to do while they are on your site? (Name 3 in order of import)

Share the link with others, because they get the answers they are looking for, understand the value proposition and are impressed by the level of professionalism

6. What is the main reason for the new site?

To change the image from "a former research project" to a valuable public asset for coping with certain ICT-related challenges of the "digital world of near future", upon which you can rely

7. Who are you trying to target with your website? age, gender, socio economic, industry etc.

Already answered under #1; gender and age play no role (well, those addressed under #1 can only be adults)

8. What keywords do you want to show up in search engines like Google?

- first hit, when typed: universAAL
- "Use" first level: digital smart independent living environments active ambient assisted intelligent connected home well-being comfort safety security social

- "Use" second level: situation-aware context-aware adaptive reactive anticipatory
- Technological first level: IoT open platform distributed heterogeneous semantic interoperability middleware integration gateway
- Technological second level: event publish subscribe service profile request call multi-modal interaction communication bus

9.   Are there any specific websites that you like in your industry and other websites that you like in design or usability?

Well, this one combines the presentation of the actual asset (the software platform AllJoyn) with the organizational aspect (the AllSeen Alliance), but I like the first page with clearly addressing the different types of stakeholders, then directly going to "download" and "getting started", and highlighting the benefits (the last part is alliance related): https://allseenalliance.org/

10.   What are the name of the navigation menu pages that you would like? Maximum of 8 example: Home, About Us, Services, Testimonials, Gallery, Contact Us

Please see universaal.info

11.   Do you want more pages on your site that aren't in the menu but can be linked to from other pages? How many?

Not sure now...

12.   What primary colours would you like to be used on your site?

No specific preference; the former EU project "universAAL" had blue as dominating colour on the project website combined with red, although the logo was in black with a red circle:

ReAAL, the piloting project of universAAL, has green as the dominating colour: http://cip-reaal.eu/

13.   Do you have any specific photos/images you would like to feature oin your site?

The logos of universAAL & ReAAL