

C4A and P4A Joint Newsletter

October 2015



FROM

**setting the user's preferences
anywhere and anytime**

TO

**creating the context
for a new ecosystem to grow**



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Welcome Note

This is the 5th and last Cloud4all newsletter. Just when things started getting really exciting. This year we have been polishing the core components of Cloud4all, doing our last evaluation, presenting the Project in diverse fora and paving the way for a bright future. Do not miss the opportunity to have a look at our latest developments and [videos](#) explaining Cloud4all from different perspectives.

Since this is also the last Welcome Cloud4all note for the Cloud4all team, it is the last opportunity to thank all partners working in this amazing Project for their contributions. For 4 intense years, more than 20 partners have been working hard to accomplish the difficult task of making a success of Cloud4all. Their implication and ideas have enriched us all, and will definitely contribute to make a big change in digital accessibility in the forthcoming years. The hard and constructive reviews and the professional management style of the European Commission's representative has made us improve in an ever critical effort to do a better job. We would not like to forget the many people that have stepped in and out during these years, they all deserve the credit for their outstanding contributions.

But this newsletter is not just a farewell, Prosperity4All continues and we will expand the GPII in Europe. We are working on setting the components that enable a new ecosystem to grow. An ecosystem that is accessible to people with disabilities, senior citizens and others with special needs. In the nearby future, we will have the Unified Listing ready and more prototypes will be coming soon.

Additionally, the GPII has received in the United States a 20 million dollar federal grant to roll out the first operational version of the GPII in a large-scale pilot test (GPII-APCP). The first two years of the grant will be devoted to creating a commercial grade version of the cloud-based system, working with IBM and Microsoft as industry partners. During the last three years, the technology will be deployed to an estimated 15,000 users – and will include a test mounting the system at Fraunhofer as well.

Cloud4all is ending, but the GPII continues based on the work done in this Project. Thanks to all the C4A team.

Enjoy our joint **C4A** and **P4A** newsletter!

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Figure 1. A Cloud4all partners in an annual face-to-face meeting



Cloud4all's Four Years

This month the EC funded Project Cloud4all finishes. Within the GPII, the Cloud4all Project has focused on the adaptation of any device, OS, AT and applications to user's needs and preferences.

Solutions

Cloud4all has proved concept of auto-configuration from preferences in a variety of platforms and applications, such as Windows, Linux, Android, Java mobile, Digital TV, and Ticket Vending Machines (TVM).

Moreover, partners have developed demonstrators that automatically adjust their settings for two different browsers: Firefox and Chrome. Demonstrators also exist for smart home simulation applications, as well as various assistive technologies such as Supernova, Mobile Accessibility, eTouch/eCmobile, Read and Write Gold, Maavis, and several more.

The **Google Chrome extension**, developed by ILUNION is available at the [Chrome Web Store](#). Once installed, the browser extension presents an icon in the toolbar. If users have GPII installed and logs in, there is nothing else they need to do. Their settings will be automatically applied to the page they visit. For non-Cloud4all users, they can click on the extension icon to launch a dropdown panel .

Maavis is a software developed by [OpenDirective](#) that provides greatly simplified access to media, communications, web and programs on Windows computers. Maavis is Cloud4all-compatible, which means that it is able to retrieve the needs and preferences of Cloud4all users and adapt its User Interface depending on the user's needs and preferences. The following video introduces Maavis and shows how its user interface adapts to the needs and preferences of two different users.

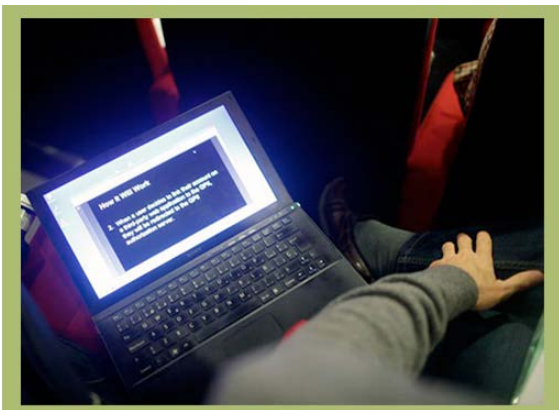
Do you want to know more about C4A solutions? You can find more information at the [Cloud4all website](#), and detailed setup instructions at the [GPII wiki page](#).



Stakeholders

Cloud4all's "stakeholders" include a wide range of players targeted during the project. Industry organizations and service providers (AT industry, ICT mainstream industry, technology-oriented organisations and service providers) have the potential of benefiting from the Project results. Public and Private Organizations and governmental organizations are key actors. In many cases the related service delivery costs of the ATs cannot be borne by people with disabilities themselves. Additionally, these organizations can largely benefit (in financial and social terms) from the uptake and financing of ICT applications and services compatible with Cloud4all architecture. Policy Makers, including regulators and procurers (European, national and local), and Legal Organizations that create policy and legal frameworks to support end-users and their families can help frame the structure of the Assistive Technology Industry. The carers who regularly look after a person (sick, elderly, disabled person, etc.) can also benefit of the C4A developments. And in general, society as a whole can benefit of a more equal access to digital resources.

Figure 2. How does C4A work?



What's Next?

Cloud4all is part of the larger Global Public Inclusive Infrastructure (GPII) effort, which continues in:

Prosperity4All, GPII-APCP, Universal Interface and Information Technology Access Rehabilitation Engineering Research Center (UIITA-RERC), OCAD University's Fluid and FLOE projects, the Preferences for Global Access project and many others.

The **code** developed in Cloud4all is intended to be usable by real people, in the real world and these other projects are extending it to support new use cases, features, and components: moving the Cloud4all research into reality.

[Prosperity4All](#) started on 2013 to complement C4A's outcomes. Prosperity4All, also part of GPII, focuses on developing the infrastructure to allow a new ecosystem to grow. The UIITA-RERC has been working on the GPII concept from the start and are now taking the Cloud4all work and applying it to libraries as well as creating an Alerting Aid extension to the Unified Listing. The FLUID and FLOE projects (which also preceded C4A and provided some of its seed technologies) is continuing its work on personalization in the education space extending and incorporating Cloud4all efforts in its work. GPII-APCP is a \$20 M project to deploy Cloud4all/GPII for an estimated amount of 15,000 users (at the Onondaga Community College, several high schools in Syracuse, New York, and at American Job Centers across the country). It will also be mounting the GPII system on the servers at Fraunhofer as part of the testing. Other independent efforts in Europe are also working on moving the Cloud4all/GPII work forward into practice in Europe. These efforts include:

1. Building a **unified directory** to find all products that match the user's needs
2. Creating the entry point so users can **adapt any device** to their needs and preferences.
3. Constructing a space where **developers** can use the GPII to explore, create and test new ideas, then build them, and market them internationally.

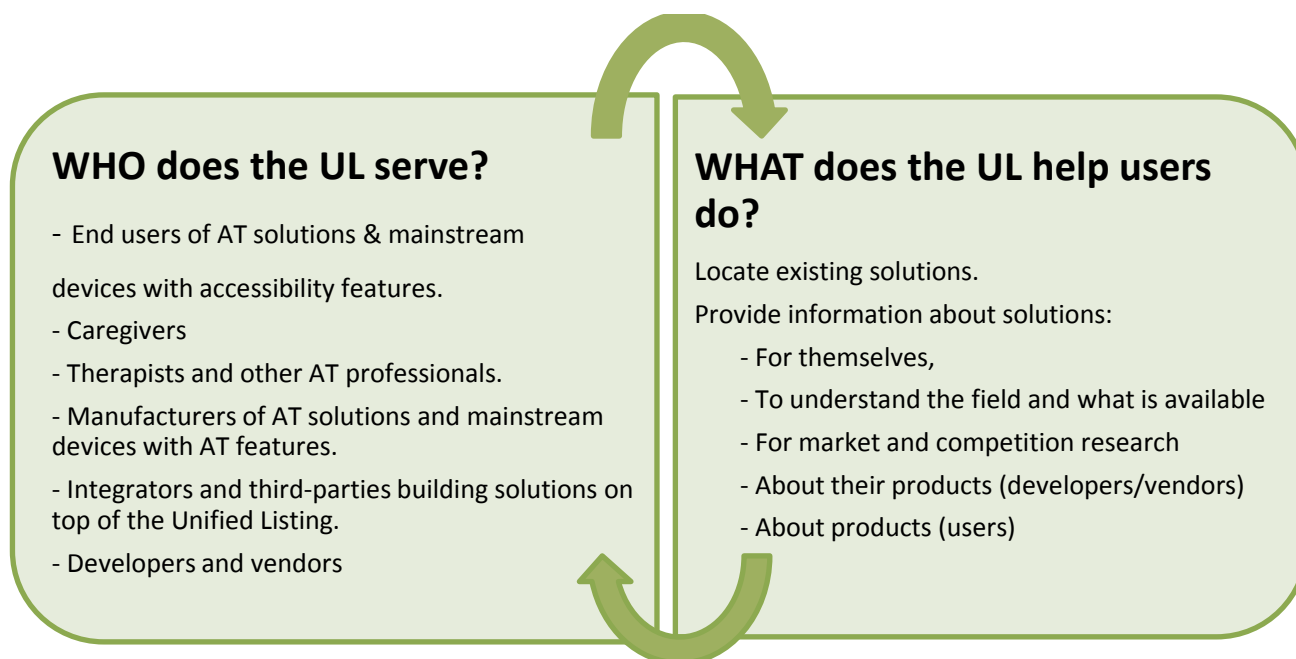


P4A: October's Highlight: The Unified Listing

Introduction

Shortly P4A will be delivering the first prototype for the Unified Listing (UL) that includes both assistive technologies and access features in mainstream technologies. This will bring together AT and mainstream product databases internationally into a single federated database for the first time, and both draw from and feed the other databases.

Figure 3. The Unified Listing



Ongoing Improvements: A Special Interface Designed & Optimized for Manufacturers

In Cloud4all, the initial REST API for the Unified Listing was created, and was used to import data from EASTIN and to integrate it with the Semantic Alignment Tool (to add semantic information to the database products). In Prosperity4All we are proposing to create an editing interface that can be used by all users to submit additions and edits to data, and which also provides a special interface designed and optimized for manufacturers. We will introduce a mechanism for identifying manufacturers and their special relationships with products in the Unified Listing. The tool is also being developed to notify manufacturers when other parties (community members or database vendors, among others) to update information related to their products. Additionally, we are developing an improved mechanism for notifying federated database managers of new information from other vendors that is not already reflected in the dataset. Prosperity4All will also be adding to the Unified Listing the mechanisms for user feedback and feedforward to product developers and vendors – and feed-sideways to users.



The Unified Listing, Developer Space and OpenMarketplace

The Unified Listing is core to the Developer Space. It is a primary mechanism for developers to reach their customers internationally. Listing products in the Unified Listing and using it is free-of-charge. It is also the most comprehensive listing internationally. It is therefore a primary mechanism for any developer, especially new developers, to be able to reach a broad audience in an effective and affordable manner. In addition, the Unified Listing is combined with other technology such as the Shopping and Alerting Aid which can take an individual's needs and preferences and use them to help find all of the relevant products and features in the database. In addition, users can request it to notify them any new products or features that would meet their needs.

The openMarketplace is separate from, but attached to, the Unified Listing. The openMarketplace is a place where developers can actually sell their products if they do not have any other mechanism for marketing their products and handling international purchases already.

- For further information on the Unified Listing, please contact us: info@prosperity4all.eu
- Follow the UL "work in progress": <http://ul.gpii.net>

Stories of End-users: Alicia, Accessing the Internet in Any Device

Alicia is a 75 year old pensioner living in a house for the Elderly. She has a visual impairment.

Alicia has problems frequently due to her special needs when surfing the web. She requires specific settings (a high contrast and a big font size) in order to navigate online.

Figure 4. Alicia surfing the Internet



These settings are neither automatic nor easy to adjust. Every time she uses a computer, she needs another person's help to adjust the settings. With Cloud4all and the GPII, Alicia only needs to key-in a USB Key Token and the computer will automatically display the information with Alicia's settings.

SingularLogic, C4A partner, produced the video about how Alicia uses Cloud4all in her daily life to access the Internet and its resources ([watch the video](#)).

CHECK OUR LATEST VIDEOS!

Academics, developers and users have their say... Visit [C4A](#) and [P4A](#) video channels.



C4a's Final Evaluation Phase

USERS are Core to Cloud4all and Prosperity4All. Both Projects Collect and Analyze Users' Feedback and Apply the Findings to the Ongoing Developments.

The third round of evaluation of Cloud4all solutions took place between May and August 2015. A total of 171 beneficiaries participated in this pilot iteration (140 end-users, 16 developers and 15 stakeholders) in the three pilot sites (Greece, Germany, and Spain). End-users with different needs and preferences were involved.

Figure 5. Two end-users learning how C4a works



For the pilot with end-users, a realistic scenario was tested including the Needs and Preferences Management Tool (PMT) and different auto-configuration use cases that are relevant for the different user groups. Moreover, focus groups were organized to provide a deeper discussion on the Cloud4all concept and solution.



Figure 6. Testing C4a developments with users

The main conclusions that can be drawn from these tests are:

- **The Cloud4all auto-configuration procedure is understandable and usable by all the user groups involved.** Key-in methods are considered very easy for all the user groups.
- **Cloud4all allow users to interact with unfamiliar devices or solutions.** Users positively valued being able to interact with an unfamiliar device or solution. Some users are very attached to their own ATs or specific configuration, but offering tutorials and guided tours for unfamiliar ATs could help users to reduce their initial rejection.
- **Users feel comfortable with the PMT.** The PMT was considered very usable and useful for most of the users. In the future, the usability of the UI and the number and type of settings covered would be further improved to accommodate the needs of specific user groups.
- **The user experience and concept acceptance of Cloud4all is highly positive.** The different user experience metrics collected have shown that all the auto-configuration use cases were considered as 'Good' or 'Excellent'. Moreover, the ease of use, usefulness and intention of use of the Cloud4all as a concept were also rated as 'Excellent' by all the user groups involved.

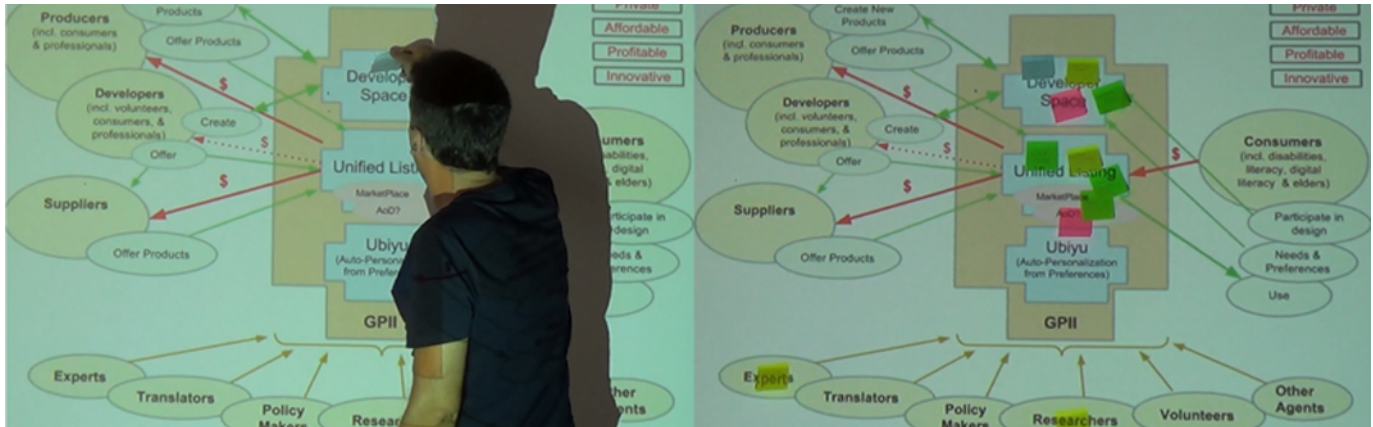
Although this is the last round of evaluations within Cloud4all, the end-users, developers and stakeholders have provided a considerable list of recommendations for improvement that will be taken into account to evolve the GPII ecosystem in the future beyond this project. These will be taken up by the succeeding projects.



P4A's First Evaluation Phase

"P4A Ecosystem: Highly Innovative Platform and Direct Contact with End-Users"

Figure 7. P4a First Evaluation



The first evaluation phase of the P4A ecosystem with product & service developers took place between May and July 2015. The objective was to evaluate the developers' experience in using the components offered in the project and core architectural elements, where developers (and other professionals) can interact with the P4A ecosystem.

More than 30 developers, with diverse professional backgrounds, participated in different evaluation sessions. They reported that attractive components had the following characteristics:

- Potential for expanding functionalities
- Limited license restrictions
- Programming language
- Low complexity of integration process
- Sufficient support
- Sustainability / maintenance

The first evaluation phase revealed first insights into the needs of the developers for a successful interaction with the P4A ecosystem.

In brief, these are the major findings and conclusions:

- The developers expect P4A to be a highly innovative platform
- The developers need direct contact with end-users in order to be able to develop user-centered systems/software.
- The developers want to use the infrastructure but they do not want to understand the underlying structure in detail.
- An important aspect pertaining across several evaluation sessions was the need for the creation and maintenance of efficient communication channels.

Developers needed!

The second evaluation phase with developers starts in October 2015. If you would like to participate and help us create the P4A ecosystem send us an email: info@prosperity4all.eu



C4A and P4A have received funding from the European Union's Seventh Framework Programme for Research, Technological Development and Demonstration under Grant Agreements no. 610510 and 28960.

Dissemination Activities

Events

In the last six months, we have participated in the major Accessibility Conferences around the world. Moreover, we have organised our own project events, and set stands in different events to present our latest prototypes and help spreading the word about our outcomes.

Figure 8. IDRC Accessibility Sprint



OER (Open Educational Resources) Accessibility Sprint

In February, partner IDRC hosted an OER (Open Educational Resources) Accessibility Sprint. P4A was discussed in many of the Sprint groups and early designs were made for tools that are good candidates for the developer space.

GPII Copenhagen Hackathon

Our team organised a hackathon last June 29th, focused on the core architecture framework of the GPII. The hackathon had two goals:

1. Discussing and planning the major issues in the remaining Cloud4all work, as well as discussing several aspects of the Prosperity4All work, and

2. Making good progress in the codebase, getting long standing pull requests merged.

Figure 9. Steve Lee (OpenDirective) at the AsTeRiCS academy



Conferences

We were present in the major accessibility Conferences: AAATE, CSUN, M-Enabling HCI-I, Mobile-HCI, DRT4all, UCP Annual Conference, TDI Biennial Conference, A conference organised by the European Disability Forum, etc. (You can access the Conferences' presentations at the [P4A](#) and [C4A](#) websites).

Figure 10. GPII Quiz distributed at the AAATE Conference



OPEN DAYS: Different Stakeholders

In our Open Days we demonstrated the latest outcomes to people that visited our stands. When we planned these Open Days, we paid special attention to our projects' target audience groups, diversifying the type of events to reach as many stakeholders as possible.

Dövas Day 2015, by Omnitor

The event "Dövas Day 2015" (Deaf Day) took place in Leksand, Sweden. This is an annual event, gathering the Deaf community in Sweden, was intended for exhibiting solutions, networking and socializing throughout the weekend. Omnitor presented the Cloud4all concept at the conference exhibition. 50 visitors stepped by the Cloud4all stand to learn about the project and to get a demonstration of visual adaptations of Omnitor eCmobile.

Figure 11. Omnitor Stand



L'Alfàs Intelligence & Innovation, by UPM

The Technical University of Madrid (UPM), C4A partner, participated in "L'Alfàs Intelligence & Innovation" event, that took place June 12th, in L'Alfàs del Pí, Spain.

L'Alfàs intelligence & Innovation is an initiative of a public-private partnership aimed to catalyse innovative and technological opportunities. UPM presented different initiatives and projects in the framework of Smart Houses by showcasing prototypes. Cloud4all is one of these projects, with a demo of how it works on a Windows PC when using pre-set profiles.

DRT4all 2015, by ONCE Foundation & ILUNION

The main goal of the International Congress DRT4all is getting to know about the latest advances in ICT supporting independent living of people with functional limitations, and to demonstrate how these technologies can work together in order to help people with disabilities and the elderly have a better life, achieving a full integration into society.

Figure 12. Spanish Secretary of State for R&D+i, Ms. Carmen Vela, visiting the Cloud4all Open Day



ONCE Foundation and ILUNION co-located a GPII/C4A/P4A Open Day with this event in order to showcase how user experience can be enhanced with this system. Industry stakeholders and public administration officials, who also play a central role in the development of these technologies, were a prominent part of this event, together with researchers, companies specialised in technology and user associations, among others.

SAVE THE DATE!!

FACILITATORS SESSIONS (Nov. 16th, 2015)

P4A's partner Guadalinfo will organize 8 practical sessions with their facilitators in Spain. Approximately 800 facilitators and other agents will attend them.

ICCHP Conference (July 13-16th, 2016)

P4A's partner KI-I will organize a GPII thematic session at this conference. The ICCHP provides an interdisciplinary platform and scientific forum including all sorts of stakeholders.



Our Latest Publications

AAATE 2015 Conference

- Konstadinidou A., Kaklanis N., Votis K. & Tzovaras D. *A Unified Semantic Framework for the Description of Assistive Technologies.*

Book Chapter in Handbook of Research on Human-Computer Interfaces, Developments and Applications.

- Gutierrez J.A., Peinado I., Ortega-Moral M., de los Rios S., Cabrera-Umpierrez M^ºF., Arredondo T. & Paramo M. *Facilitating Open and Universal Access for People with Disabilities and for All.*

CSCESM 2015 Conference

- Dimokas N., Kalogirou K., Spanidis P. & Bekiaris E. *Building Adaptive User Interface Using Cloud Computing.*

DRT4all 2015 Conference

- Gutierrez J.A. & Ortega-Moral, M. *Mejora de la Accesibilidad Mediante la Personalización Web: Implementación de Add-ons para Navegador y Páginas Web.*

HCI 2015 Conference

- Chalkia E., Bekiaris E. & Madrid R.I. *Evaluating all-inclusive ICT with Developers, End-Users and Stakeholders.*
- Gower V. & Andrich R. *Progress of the European Assistive Technology Information Network.*
- Smirek, L., Henka, A. & Zimmermann, G. *Giving Elderly Access to Smart Environments Providing Adaptive User Interfaces Based on Web Components, the Universal Remote Console and the Global Public Inclusive Infrastructure.*
- Zimmermann, G., Stratmann, A., Reeb, D. & Glaser, T. *Patterns for User Interface Adaptations – Towards Runtime Adaptations for Improving the Usability of Web Forms for Elderly Users.*
- Ballieu Christensen L. & Tanja Stevns T. *Universal Access to Alternate Media.*

IISA 2015 Conference

- Dimokas N., Kalogirou K., Spanidis P., Symeonidis I. & Bekiaris E. *Auto-Personalization from User Needs and Preferences in Cloud Computing: A Mobile Application Paradigm.*

MobileHCI '15 Conference

- Votis K., Giakoumis D., Manolis V., Doumpoulakis S., Segkoyli S. & Tzovaras D. *Mobile Cognitive Training Games for older adults with mild cognitive impairment (p. 932-935).*

Paper in Journal of Accessibility and Design for All (JACCESS)

- Madrid, R.I., Carmona, I. & Montalvá, J.B. *Managing the participation of people with disabilities in large-scale R&D technology projects: Best practices from AEGIS and Cloud4All.*



Cloud4all (Twitter: [@Cloud4all7FP](https://twitter.com/Cloud4all7FP))

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Project details

- **Project acronym:** Cloud4all
- **Project full title:** Cloud Platforms Lead to Open and Universal Access for People with Disabilities and for All
- **Project reference:** 289016
- **Starting date:** November 2011
- **Duration:** 4 years
- **Budget:** €13.187.981. Funded by the EC €7.583.999
- **Funding scheme:** EU FP7 Seventh Framework Programme

Online version of this newsletter is available at the [Cloud4all](#) & [Prosperity4all](#) websites

Prosperity4all (Twitter: [@p4allnews](https://twitter.com/p4allnews))

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Project details

- **Project acronym:** Prosperity4All
- **Project full title:** Ecosystem infrastructure for Smart and Personalized inclusion and prosperity For all stakeholders
- **Project reference:** 610510
- **Starting date:** January 2014
- **Duration:** 4 years
- **Budget:** €12.714.767. Funded by the EC €7.700.000
- **Funding scheme:** EU FP7 Seventh Framework Programme

