

Serenoa Newsletter

Multidimensional Context-Aware Adaptation of Service Front-ends

November 2013 / n. 6

Serenoa News

Serenoa project came to an end in September 2013. Project partners successfully concluded the work as initially proposed and the latest results obtained are reported in details in 14 deliverables that have been submitted to the reviewers during the 37th month of the project.

The presentations and demonstrations of Serenoa outcomes will take place in Brussels, in November 26th, at the EU facilities.

The latest achievements concern different aspects of the project, such as:

- **Reference Models:** models that define context-aware adaptation, its properties, methods and relationships
- **Languages:** both ASFE-DL and AAL-DL have been updated, refined and concluded to support adaptation of user interfaces
- **Framework:** the Serenoa framework has been extended to properly connect and integrate the modules of the project and the adaptation engine
- **Prototypes:** a set of prototypes have been concluded, tested and evaluated illustrating the application of Serenoa components in adapting user interfaces in specific scenarios
- **Evaluation:** the second evaluation plan has been proposed, performed, and reported.

Besides all the work that has been finalized and the 14 deliverables submitted, a series of dissemination actions took place, including presentations of papers in conferences as RCIS, EICS, CASFE, SigDoc and WebMedia.

In this newsletter you find short descriptions about our communication channels, last activities and progress of the project. For further information, contact us at: serenoa@tid.es

Final Review Meeting

The final review meeting of Serenoa will take place at the EU facilities on Tuesday, November 26th, in Brussels, Belgium. The project partners have been continuously preparing the arrangements for the review, including the agenda, presentations, and additional materials. The rehearsal of the meeting will take place at the UCL venues, on Monday, November 25th, during the last consortium meeting of the project in Brussels, Belgium. The project officer, Michel Lacroix, together with two reviewers, Maddy Janse and Massimo Zancanaro, have been assigned to assess the achievements and progress of the Serenoa project.

EICS 2014

The 6th ACM SIGCHI Symposium on Engineering Interactive Computing Systems will be held at CNR venues, in Rome, Italy in June 17-20, 2014.

EICS'2014 is devoted to the engineering of usable and effective computing systems, including new and emerging modalities, entertaining applications and development methods.

Topics of interest include modeling and engineering interaction and interactive systems, the software development process and interaction design, formal methods for HCI, end-user development, user experience, models and tools for semantic data, user interfaces for big data, etc.

The deadline for long papers is December 19th, 2013; for late breaking results, demonstrations, doctoral consortium and tutorials papers can be submitted until March 28th, 2014.

Further information is available at: eics2014.org



<http://serenoa-fp7.eu>



<http://www.tid.es>



<http://www.uclouvain.be>



<http://giove.isti.cnr.it>



<http://www.sap.com>



<http://www.w3c.org>



<http://www.w4global.com>



<http://www.fundacionctic.org>

CASFE'2013 at EICS

The 2nd CASFE workshop took place on June 24th at City University London in England. Participants from academia and industry presented their papers, discussed ideas and exchanged their experiences about adaptation of service front-ends. The proceedings of the workshop have already been published and all the papers are publicly available online at the website of the event.



Industrial Advisory Board and Consortium Meeting

The CASFE'2013 was followed by the 3rd Advisory Board Meeting of Serenoa that took place also at the City University London on June 24th. An overview of the project has been firstly presented to internal and external advisors that could then provide their recommendations and advice about potential future works. The advisors presented to the project partners a set of alternatives for exploitation actions and trends to be considered by project partners.



The consortium meeting of Serenoa took place on June 25th and 26th. This is the last consortium meeting of the project before the final review meeting. The goal was to prepare for the final review meeting, synchronizing all the latest achievements of the group, and also to start the arrangements for the end of the project. One of the important decisions that was taken concern the creation of the community group on Ubiquitous Application Design which will aid to bring industrial partners to discuss the standardization actions of the MBUI WG.

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Serenoa Deliverables

Reference Models

The models formalize the definition of adaptation concepts providing a unified vocabulary and a common approach for the adaptation domain. The models can be instantiated by UI designers according to their own needs and requirements (regardless of platform, domain or contexts). It can lead to the generation of a language and to the adoption of a standard terminology, providing more consistent outcomes and less compatibility issues.

Framework

It describes the Serenoa framework components and their roles, providing also explanations about how to use them, providing a comprehensive documentation of the current components of the Serenoa framework as well as how to extend the framework if needed. After the last Amendment, this deliverable became public.

Adaptation Engine

It is characterized by a component able to determine the optimal adaptation for an interactive system on-the-fly in an actual context of use, according to the specified adaptation rules. To achieve this goal, the Adaptation Engine receives from the Context Manager information about the current context, and checks whether some adaptation rules could be triggered, by analysing if the event/condition parts of some rules are satisfied. In the positive case, the corresponding action part of the selected rule is sent to the module in charge to perform the associated modifications.

RUIGE

It describes the runtime component that generates Service Front Ends (SFEs) according to previous definitions in ASFE-DL descriptions. It adapts the resulting SFEs based on the Adaptation Engine decisions. RUIGE has been defined as a set of sub-modules, and each of them is specialized in the generation of a specific target platform and modality: mobile Web apps, avatar interfaces, voice systems, etc.

Languages

The two languages developed in the project: ASFE-DL and AAL-DL have been further improved. Since in their previous versions, both the Abstract level and the Concrete level for graphical interfaces were considered, we have moved our attention to the vocal modality, which is acquiring an increasing importance also in mass market products. Thus, we have provided a last version of Advanced Service Front End Description Language (ASFE-DL) that covers the Concrete Level for such vocal modality. The Advanced Adaptation Logic Description Language (AAL-DL) is a high-level description language intended to express declaratively adaptation rules. Such adaptation logic should define the transformations affecting the interactive application when some specific situations occur both at the context level (e.g. an entity of the context changes its state), and in the interactive application (e.g. an UI event is triggered). The novel version is based on the extensive use of this language done in the project to specify adaptation rules.

Evaluation

The evaluation criteria developed in the Serenoa project have been applied in the second round of prototype evaluations. By conducting these evaluations we were able to assess the considered tools for adaptation. In particular, we have results related to the evaluation carried out at SAP on the adaptive HMD-based prototype, the test conducted by CNR to assess the multimodal augmentation of Web applications obtained through adaptation, the work done at W4 on evaluation of a prototype in a business scenario, and the evaluation carried out by TID on an e-health application.

Access

Serenoa produced in total 54 deliverables, most of them are publicly available and can be accessed at the website:

www.serenoa-fp7.eu/deliverables/

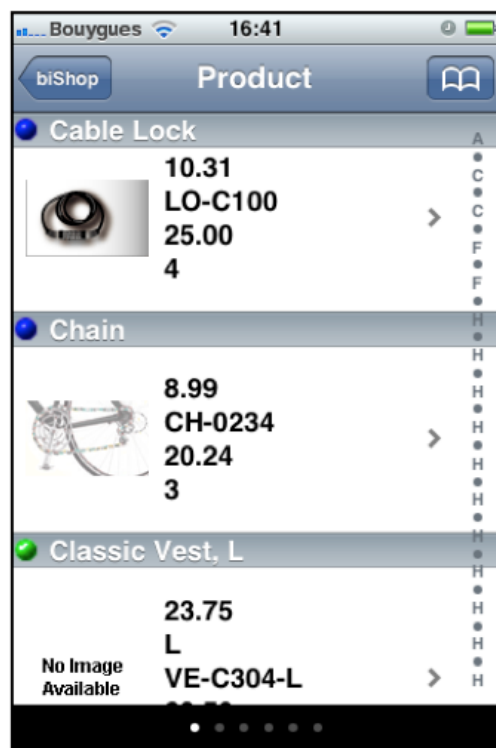
E-Health Prototype

The novel version of the e-Health prototype of TID is also available to work in Android-based mobile devices, with most of the features of the desktop version of the prototype like adaptation to the level of noise and taking advantage of some features of Android, such as the notifications.



E-Commerce Prototype

This prototype aims at illustrating how different online end-users can take advantage of adaptive SFEs while connecting to both a front-end application and a back-end application. Typical user roles involved in the scenario include online shoppers and employees, acting either as supervisors or customer representatives in charge of following-up with online orders. Based on their roles, such users can access different features, but their UIs are capable of adapting based on different factors such as language, colour-blindness or type of device (either a home computers or a mobile device).



Intelligent-Picking Prototype

This prototype aims at providing a seamless context (environment and task) adaptation experience to users in one of the partner's Living Lab facilities in the field of Future Retail Concepts (FRC) of SAP. This scenario motivates how proactive applications can provide unobtrusive and adequate help (e.g. missing parts, location of necessary parts, etc.) when the user needs help. The prototype demonstrates the enhanced user experience obtained through adaptive user interfaces.



RCIS

The RCIS conference was held in Paris (France) on May 29th to 31st. During this conference, UCL presented a full paper about the Serenoa framework, describing the CAMM (meta model), CARF (reference framework) and CADs (design space). RCIS provides an international forum for scientists, researchers, engineers and developers from different information science areas to exchange ideas and approaches in this field.



SigDoc

One of the final activities for the dissemination actions of Serenoa, took place on October 1st, when the paper entitled “Quill: Simplifying the Development of Cross-Platform Web User Interfaces by Collaborative Model-based Design” has been presented during SigDoc (<http://sigdoc.acm.org/2013/>). Université catholique de Louvain (UCL) presented a full paper that has been done in collaboration with W3C. The work reports the simplification of user interface design, by means of a web based assistant: Quill. This year the SigDoc conference was held in Greenville – NC (USA).



WebMedia

The work regarding adaptation guidelines for authoring tools of Serenoa project has been presented during the 19th Brazilian Symposium on Multimedia and the Web (WebMedia'2013). This conference was held in November 5th to 8th 2013, in the city of Salvador (Bahia), Brazil. The paper authored by UCL concerns the integration of adaptation guidelines with sketching recognition activities. It has been presented on November 6th during the track Web and Social Networks II: Web, Models and Architectures.

More information can be found at:
<http://webmedia2013.dcc.ufba.br/>

WebMedia2013
 19th Brazilian Symposium on Multimedia and the Web



MBUI Working Group

Serenoa partners of W3C, UCL and CNR/ISTI participated of the 4th face-to-face meeting of the W3C working group on model-based user interfaces. The meeting is part of the standardization efforts of Serenoa project. It took place at RedHat – Munich (Germany) on July 10th and 11th and counted with 11 participants of different institutions and universities. The meeting was dedicated to decide the last changes needed on the AUI document before the publication of its first working draft. Moreover, the participants discussed the next updates for the task model and planned future efforts. The creation of the community group has also been announced. The community group named Ubiquitous Applications is open for public participation and aims at reaching more industrial interest in the domain. More information about this WG can be accessed online. The minutes of the face-to-face meeting are publicly available at the website of the group.



Working Drafts

The first W3C working draft of the AUI specification has been recently published and an updated version of the Task Models specification has been released. The specifications are available online at the following URL's:

- <http://www.w3.org/TR/2013/WD-abstract-ui-20131105/>
- <http://www.w3.org/TR/2013/WD-task-models-20131107/>

More information about the group is available at: <http://www.w3.org/2011/01/mbui-wg-charter>

Achievements Sheet



Serenoa

Serenoa provides support to create user interfaces (UI's) that are aware of the context and that continuously reacts to its changes. Such UI's are adapted according to the devices, tasks, preferences, and abilities of users, improving their satisfaction when compared to traditional or manually designed UI's.

AT A GLANCE

Project title
Multidimensional context-aware adaptation of Service Front-Ends

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Fundación CTC (ES)
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Duration
September 2010 –
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Total cost/EC contribution
€ 5.1M / €

Programme
FP7-ICT-Call 5

Website
www.serenoa-fp7.eu

Scope

While most of the existing applications still target at a pre-defined context of use, of an able-bodied user, with a Desktop PC interacting in a stable environment, currently, the end users interact with different devices, using multiple modalities and from varied situations (e.g. while cycling, driving, shopping). Although the contexts significantly vary, stakeholders are not able to find support that is complete enough to aid the generation of applications that are suitable for end users to interact in their environments. As a result the development process is delayed and complex, and the applications launched often target at a specific context of use. Serenoa aims at extending the state-of-the-art of adaptation, by providing support for stakeholders to develop applications that can successfully adapt their final-ends according to the characteristics and constraints posed by multiple contexts.

Achievements

To provide support for adaptation, Serenoa achievements encompass a series of tools and methods, including reference models, languages, authoring environments, prototypes, evaluation criteria, frameworks

Serenoa reached its end in September 2013, and to summarize the scope of the project and its main results, an achievement sheet has been prepared. It concerns information about Serenoa, including its scope, achievements, applications, benefits, and impact.

The achievements sheet is part of a report of all FP7 ICT Call 5 projects to be disseminated by the Commission services.

It is available online for download at: <http://www.serenoa-fp7.eu/achievements-sheet/>