Serenoa Newsletter

Serenoa News

The research project Serenoa is completing one year in September 2011. In this first year we investigated adaptation concepts and could successfully advance this knowledge by preparing new contents, mainly regarding: architectural approaches, authoring environments, agile methods, models, algorithms, design spaces and adaptation techniques.

During this first year Serenoa was present in scientific and industrial events: such as: EICS, ICWE, Interact, SIGDOC. In addition to this, a set of outcomes were produced: deliverables, review meetings, bi-weekly conference calls, scientific papers, newsletters, factsheet, leaflet, tutorials, discussions, posts in the website and tweets.

Our next steps include advancing the development of the project, defining our evaluation criteria, ontology, detailing our models, algorithms and architecture. For the next year, other events are planned: conferences, workshops and meetings. Besides, a new batch of deliverables are being prepared to report our new achievements.

We have been working in collaboration with companies, research centers and other European projects. For instance, during EICS we participated of the industrial panel, we organized an advisorial board to September, and we keep in touch with related projects, such as Webinos (http://webinos.org/). This allows us to share experiences, novelties, tends and promotes discussions with the community.

The communication of the project is supported by many tools: we publish our news in the website, contact via email, use Linkedin, Twitter, Rss Feeds, and Facebook. A Wiki is used to manage the events, and discuss contents.

In this newsletter you find further information about our communication channels and achievements. In case of suggestions, comments or doubts, please contact us at: serenoa-general@lists.morfeo-project.org

Working Group on Model Based UIs

Serenoa partners are seeking to launch a new standardization activity at the World Wide Web Consortium (W3C). The charter for the proposed **W3C Model Based User Interfaces (MBUI) Working Group** is currently out for review by the W3C Advisory Committee. If approved, the new working group will focus on standardizing meta-models and associated markup languages for interchange of models between authoring tools for context-aware user interfaces. The plan is to focus initially on standards for task models and the abstract user interface. The new working group follows on from the former W3C Incubator Group on Model Based UI. The charter for the MBUI working group can be viewed at:

http://www.w3.org/2011/01/mbui-wg-charter

Events

UIDL'2011 – Software Support for User Interface Description Language – Interact Workshop

Date: Lisbon, Portugal, September 6th, 2011
Organizers: Jean Vanderdonckt (UCL), Adrien Coyette, David Faure, Juan Manuel Calleros

A User Interface Description Language (UIDL) is a formal language to describe a user interface regardless of implementation technology. As such, it involves different interaction modalities (e.g., graphical and vocal), interaction techniques (e.g., drag-and-drop) and interaction styles (e.g. virtual reality). Most UIDLs are modeled as a model-theoretic structure including sets of interaction objects. Examples include: UIML, useML, MARIA, UsiXML and XIML.

UIDL'2011 is a Workshop to discuss the software architecture to support a UIDL (User Interface Description Language) and its taxonomy, according to a common definition format of services inspired by SOA.
Webpage: http://itea.defimedia.be/UIDL_2011
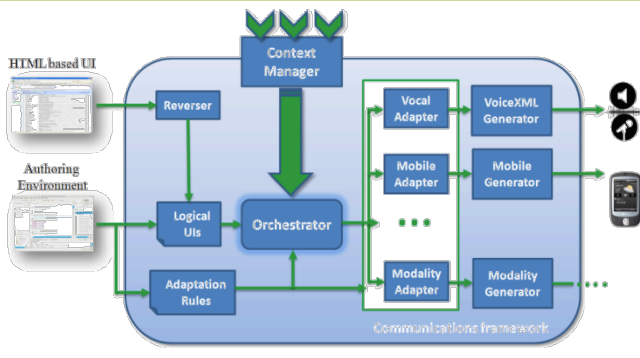
http://serenoa.morfeo-project.com

ARCHITECTURE

The SERENOA architecture is already defined. Highlights include:

a) Emphasis on modularity with provision for an incremental addition of functionality

b) Provision for abstract context management

c) UI generation process separated in adapters (AbstractUI → ConcreteUI) and generators (ConcreteUI → FinalUI)

d) Support for SERENOA-native (Authoring Tool) and reverse engineered SFEs

AUTHORING TOOL
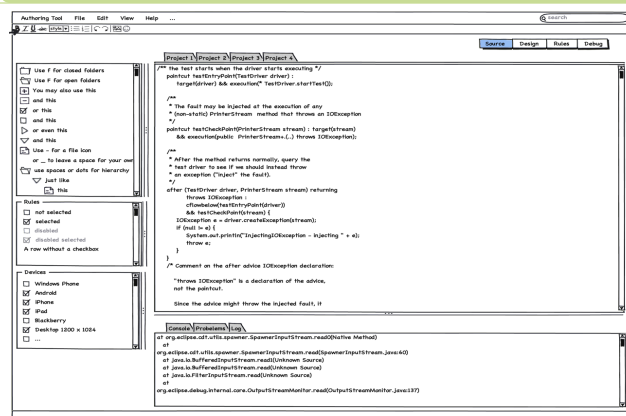
The authoring environment and its accompanying analysis tools will facilitate the designers and programmers to easily design, develop and deploy the adaptive SFEs using ASFE-DL and AAL-DL.

Two types of authoring environments will be developed: one as an Eclipse plug-in (by SAP) and second as an HTML5 browser based application (by W3C) for web based authoring. Both will provide support for editing not only the model-based descriptions at *abstract* and *concrete* levels, but also the context dependent rules for transformations.

CARFO ONTOLOGY

The CARFO Ontology will describe concepts necessary for the whole spectrum of SFE adaptation including strategies, techniques, UI elements and context.

Based on previous W3C work on Delivery Context Ontology[1], augmented to include the universe of concepts defined in the CADS and CARF.

Initial version of CARFO includes the Context Of Use module including the User, Platform and Environment aspects. Concept coverage will be extended in future releases to include all the elements in the theoretical domain.
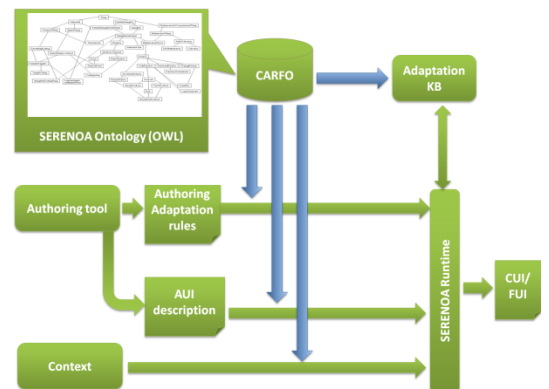
MODELS
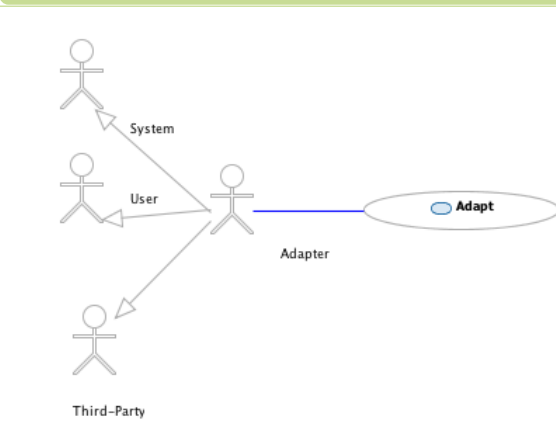
The modeling phase formalizes main concepts of the project. We use UML, OWL and MOF to develop diagrams that graphically represent views for adaptive or adaptable system.

The use cases for adaptation are based on the CARF templates and the CADS dimensions. The descriptions detail pre-conditions, actors and flows. The algorithms complement these descriptions and details the techniques. The CARFO Ontology also complement the models descriptions, defining constraints, relationships and further information about the adaptation techniques.

[1] http://www.w3.org/TR/dcontology/ W3C Delivery Context Ontology

Published Papers in Conferences

-"**A SOA based Context-Aware Order Picking System for Warehouses using Laser Range Finder and Wearable Computer**", Safdar Ali, Joerg Rett, Anna Lewandowski, IEEE WoWMoM, Lucca, Italy, June 20-24, 2011

-"**Engineering JavaScript State Persistence of Web Applications Migrating across Multiple Devices**", F. Bellucci, G. Ghiani, F. Paternò, C. Santoro, ACM EICS, Pisa, Italy, June 13-16, 2011

-"**Supporting Transformations Across User Interface Descriptions at Various Abstraction Levels**", Mauro Lisai , Fabio Paternò, Carmen Santoro, Lucio Davide Spano, IFIP INTERACT 2011, Lisbon, Portugal, September 5-10, 2011

-"**Adapting Desktop Web Pages for Vocal Browsing**", F. Paternò, C. Sisti, IFIP INTERACT 2011, Lisbon, Portugal, September 5-10, 2011

-"**Model-Based Customizable Adaptation of Web Applications for Vocal Browsing**", F. Paternò, C. Sisti, ACM SIGDOC 2011, Tirrenia, Italy, October 3-5, 2011

Public Events

- SFE CW (Service Front-End Collaboration Working Group) – Annual Meeting, Javier Caminero (TID) and Fabio Paternò (ISTI), Brussels – Belgium, September 29th, 2011

- **ICT Event 2010**

Jean Vanderdonckt (UCL); Brussels – Belgium, September 27th-29th, 2010

- **Mobile Forum 2010**

Jean Vanderdonckt (UCL); Vieux Genappe – Belgium, December 8th, 2010

Tutorials Presented

- "**Multi-dimensional Context-aware Adaptation of Web Applications**", Jean Vanderdonckt and Vivian Genaro Motti – LILAB - UCL, ICWE'11, June 20th, Paphos – Cyprus

- "**Context-aware Adaptation of User Interfaces**", Jean Vanderdonckt and Vivian Genaro Motti – LILAB - UCL, Interact'11, September 5th (Full day), Lisbon – Portugal

- "**User Interface Design, Adaptation, and Migration for Multi-Device Environments**", Fabio Paternò – CNR - ISTI, Interact'11, September 6th (Morning), Lisbon – Portugal

Communication Channels

Serenoa is present in different social media channels:

-The Serenoa **website** is regularly updated with achievements of the project, such as deliverables and dissemination activities. The website also contains updated news about adaptation of service front ends, such as information about APIs, new technologies, Sketching tools, applications, and tends.

-To access suggestions of links, recommended websites and quick news, Serenoa is present at **Twitter.** Regular posts about the technological domain inform the readers about: browsers, market tendencies, users preferences, interesting websites and further information sources.

-Serenoa has a project group in **Linkedin.** There, you will find topics for discussion about mobile market, context-aware computing, communities for developers, and frameworks. The group is open for the public.

-Serenoa uses **SlideShare** to share interesting documents and presentations with the community. There you will find content about adaptation, distributed user interfaces, mobile interaction.

On August 6th, 2011, the presentation "Distributed User Interfaces: How to Distribute User Interfaces Elements across Users, Platforms and Environments", with 1118 views on SlideShare, was selected for the '**Hot on Twitter**' section!

Follow us

Announcements

Industrial Panel on Research Agenda in Service Front Ends

EICS 2011 was the third edition of a conference devoted to the engineering of usable and effective interactive computing systems. EICS focuses on methods, techniques, and tools that support the design and development of interactive systems.

EICS's industrial panel stimulated the interaction between the community and the industry. The panel's coordinator, Fabio Paternò, introduced key topics, such as: user experience, ubiquitous and social computing, for five panelists: Stephane Chatty, Mauro Cherubini, Bettina Laugwitz, Carlos Alberto Licciardi, and Dave Raggett. Their main ideas are briefly presented below:

•There is a trade-off between the design for User eXperience and reasonable costs. Interaction designers have a key role in UX, and more specialised SFEs will be necessary in the future.

•Today 90% of the mobile phones in the world are just feature phones (NOT smartphones). Thus the idea that everyone will have a smartphone in the next years is NOT coming to happen because of a cost barrier. Telcos are not just "dumb pipes". Telefonica, for instance, has recently released BluVIA, APIs for developers, that enable them to use the telco infrastructure. For instance, using BluVIA to send twitting messages with a feature phone.

•The focus should be on: adaptivity (e.g. adaptation based on the level of expertise), need of proactive support in information access (e.g. by providing intelligent hints), context-awareness (especially as far as physical environment is concerned) and support the user productivity by enhancing the user satisfaction.

•The main characteristics of the current device market: fragmentation of devices, the existence of several OS/interaction patterns/customisations/capabilities and APIs and the fact that a short time to market is a must. Thus we would need ubiquitous access from several devices, by supplying a single backend for several front ends (develop once and run everywhere). Possible solutions for this are either to develop only browser-based applications, or use some technology (like HTML5+W3C DAP) that is currently available and can be used for this goal.

•The challenges for the development of effective SFEs: customer-centred design for effective web sites, rapidly changing fashions for website designs, distribute development teams, responding to urgent calls for changes, wide ranges of screen sizes, new interaction mechanisms, browser-interoperability issues. In addition, the focus on design patterns as a basis for shared insights and also the opportunity of classifying, choosing and combining patterns.

The original article can be accessed at: http://eics-conference.org/2011/EICS_2011-industrial_panel.pdf