Serenoa Newsletter

Multidimensional context-aware adaptation of Service Front-ends

Introduction to the project

The research project Serenoa is a three-year effort accomplished by seven partners across Europe, from September 2010 to September 2013. The project intends to create new mechanisms for multidimensional, context-aware adaptation of Service Front-Ends. It is funded by the European Union with 3,273,620 € (64% of total budget) as a Call 5 STREP Project. Kick-off meeting took place on the 14th and 15th September 2010 in Boecillo (Spain) and a second meeting happened in Darmstadt (Germany). Results after the first six months of the project are ready for the first review by the European Commision in March 2011.

Serenoa intends to fill existing gaps on development of Service Front-Ends which dynamically adapt to the context of use. This "context of use" includes all aspects which define characteristics of the person using the service, the software and hardware as well as the server side, and the real world (where, when and how the interaction with the service is actually taking place). Nowadays, user access services in an ubiquitous manner and there is a lack of systems which allow the creation of services supporting user interaction that can vary depending on the actual situation of the user: sitting in front of a desktop PC, using a TV remote control, interacting with mobile phones on-the-go or using embedded or wearable devices in industrial environments.

The goal of the research project Serenoa is to develop a novel, open platform for enabling the creation of context-sensitive service front-ends. The project consortium including academia, technology centres, large companies and SMEs intends to cover the complete value chain of research, development and innovation. In this way, basic research will be applied to the requirements of companies in order to satisfy market needs. Furthermore, there will be an intensive effort in order to standardize the results of the project with the consensus of a context-aware developers' community.

NEWS

Preparation of a new W3C Working Group

Model-Based User Interface Working Group (MBUI-WG)

Dave Ragget (W3C) is preparing a new Working Group through a public request which goal is to develop standards as a basis for creating a market for interoperable authoring tools for context aware user interfaces for Web-based service front ends.

This Working Group draws upon many years of research into model-based design, and continues the work started in the Model-Based UI Incubator Group, the associated W3C Workshop in Rome, and a follow up meeting at the W3C Technical Plenary 2010.

To subscribe to the public list, send an email to: public-mbui-request@w3.org

WORKSHOP

ACM SIGCHI Symposium on Engineering Interactive Computer Systems

Date: *Pisa, June 13-16 2011*

Conference chair: *Fabio Paternò (CNR-ISTI)*

EICS is the third international conference devoted to the engineering of usable and effective interactive computing systems.

Systems of interest will include traditional workstation-based interactive systems, new and emerging modalities, entertaining applications and development methods.

EICS focuses on methods and techniques, and the tools that support designing and developing interactive systems. The Conference brings together people who study or practice the engineering of interactive systems, drawing from HCI, Software Engineering, Requirements Engineering, CSCW, Ubiquitous / Pervasive Systems and Game Development communitie.

Web: http://eics-conference.org/2011/index.php?content=1

http://www.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

TELEFÓNICA I+D (TI+D)

TI+D (Telefónica I+D) is a company totally owned by Telefónica S.A and operational since 1988. Telefónica S.A has created TI+D to fulfil its Research and Development requirements with more excellence and profitability and to contribute to Telefónica Group competitiveness through technological innovation. Over the last years, the line of work of TI+D has evolved to conform to the objective of becoming a products & services creation unit. In particular, in this project, the TI+D unit that will take part in Serenoa is responsible for the specification and implementation of prototypes for Digital Home and E-Health environments. This objective is driven by research on interactive multimedia services, mobile communications, speech technology, multimodal interfaces in services, multidimensional context-awareness, seamless and ubiquitous services, multidevice services, adaptative services to user profiles and to the co-creation process.

Consiglio Nazionale delle Ricerche / Istituto di Scienza e Tecnologie dell'Informazione "A. Faedo"

CNR-ISTI (Consiglio Nazionale delle Ricerche / Istituto di Scienza e Tecnologie dell'Informazione) will participate to the project through the laboratory on Human Interfaces in Information Systems (http://giove.isti.cnr.it/). The main goal of this laboratory is to carry out research in methods and tools to support designers and developers to obtain usable service front ends that can be accessed from different contexts of use. For this purpose a set of languages (such as MARIA and ConcurTaskTrees), methods, and tools have been proposed to support development of multi-device interactive application at design time and adaptation and migration of interactive Web applications at run-time. Such languages and tools will be extended in Serenoa in order to obtain new solutions for service front-ends, able to dynamically compose access to various services, adapt to users, devices, social and physical environments, and exploit various interaction modalities. In addition, the design and development of context managers and usability evaluation frameworks for adaptive interfaces will be addressed as well.

SAP Research (SAP)

SAP Research is the global technology research unit of SAP. The group significantly contributes to SAP's product portfolio and extends its leading position in the market by identifying and shaping emerging IT trends and generating breakthrough technologies through applied research.

In contrast to SAP's product groups and development labs that work on new functions and releases, the researchers explore opportunities that haven't yet been developed into products.

SAP Research spreads its research and development activities around the globe. Currently, their thriving network comprises of 19 locations worldwide, including their headquarters in Walldorf, and numerous partners from the business and academic worlds. SAP Research will participate in the Serenoa project through the practice of Mobile Computing, Internet of Things and User Experience. Important topics are Gesture Recognition, Wearable Computing, Ambient Intelligence, Augmented Reality, Agile Usability Engineering Methods, Design Time Tools and Ontology-based UI Integration

W4

W4 is an SME (60 persons) specializing in collaborative business applications. It is the BPM leader on the French market, but also specializes in automating the production of Graphical User Interfaces (GUIs) from models. Resulting applications target multiple graphical environments from a single model. Such models include the data structure and origin, the navigation tree and context related information.

W4's expectations from SERENOA are to be able to produce adapted GUIs from already existing applications. Two targets are considered a primary goal and targeted:

• Smartphones or tablets related GUIs (IOs and/or Android)

• Adaptation to users with disabilities (Dynamic update to various disabilities: color blind, low vision, impossibility to use the mouse…)

W4's planned contribution is to implement a runtime engine in order to generate and/or show the adapted application in the specified environments described above. W4 is also responsible for managing the SERENOA industrial advisory board.

Université catholique de Louvain (UCL)

Université catholique de Louvain (UCL) is represented in the Serenoa Project by the Louvain Interaction Laboratory (www.LILab.be), a laboratory conducting research, development, and consulting services in user interface engineering. For this purpose, the user interface development life cycle is covered by a development methodology based on model-driven engineering, requirements engineering, prototyping, and evaluation. All steps are based on User Interface eXtensible Markup Language (www.UsiXML.org), a XML-compliant meta-language for describing a user interface independently of any technology and explicitly based on usability guidelines. The Serenoa project will bring unique opportunities to address the challenge of multi-dimensional context-aware adaptation of service front ends towards a computational framework. In particular, three levels of adaptation will be addressed: adaptation rules, rules that govern adaptation rules, and strategies for choosing governing rules.

World Wide Web Consortium (W3C)

The World Wide Web Consortium (W3C) is an international consortium where Member organizations, a full-time staff and the public work together to develop Web standards to fulfill W3C's mission for leading the World Wide Web to its full potential.

It is widely recognized that user interface design is a challenging aspect of creating Web applications. The authoring tools market for this remains underdeveloped. There are expensive tools with proprietary formats, as well as programming language specific APIs, and a general lack of interoperability.

To address this, W3C is seeking to launch a new working group focusing on the specifications that enable interchange of models across authoring tools and building upon extensive research into model-based design of user interfaces.

W3C will also contribute to building open source authoring tools and libraries that demonstrate the benefits of the model-based approach.

Fundación CTIC- Centro Tecnológico (CTIC-CT)

Fundación CTIC Centro Tecnológico is a technology center which has been dedicated to goals of general and social interest, of permanent nature and of cooperation for technology development. The aim and goal of the Foundation is the promotion and stimulation of activities related to the development of the ICT sector in all the aspects of the social and economical life, which can contribute to fostering and strengthening the Information Society.

The main goals of CTIC in this project are:

• To collaborate in the building of the proposed framework, specially in the runtime tool.

• Disseminating the results of the project and transferring results to standard organizations.

• Co-editing scientific journals about the technology developed.

SERENOA PRESENTATIONS

Title: Towards a toolkit for distributed User Interfaces
Author: Jean Vanderdonckt (UCL)
Event: Conference at University of Elche (Elche, 23 November 2010)
URL: http://www.slideshare.net/SerenoaProject/towards-a-toolkit-for-distributed-user-interfaces-think-distributed

Title: Distributed User Interfaces: How to Distribute User Interface Elements across Users, Platforms, and Environments
Author: Jean Vanderdonckt (UCL)
Event: XIth Congreso Internacional de Interacción Persona-Ordenador Interacción'2010 (Valencia, 7-10 September 2010)
URL: http://www.slideshare.net/SerenoaProject/distributed-user-interfaces-how-to-distribute-user-interface-elements-across-users-platforms-and-environments-5207510

Title: Adaptation and Continuity in Multidevice Environments
Author: Fabio Paternò (CNR-ISTI)
Event: Mobile HCI 2010 (Lisboa, 7-10 September 2010)
URL: http://www.slideshare.net/SerenoaProject/adaptation-and-continuity-in-multidevice-environments

Vision and companies

Partners