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1 Project Overview

SALERO aims to make cross media-production for games, movies and broadcast faster, better and more cost efficient by combining computer graphics, language technology, semantic web technologies as well as content based search and retrieval.

SALERO will define and develop 'intelligent content' for media production, consisting of multimedia objects with context-aware behaviours for self-adaptive use and delivery across different platforms. 'Intelligent Content' should enable the creation and re-use of complex, compelling media by artists who need to know little about the technical aspects of the tools that they use.

Based on research into methodologies for describing, creating and finding intelligent content, SALERO will develop toolsets to create, manage, edit, retrieve and deliver content objects, addressing characters, objects, sounds, language sets, and behaviours. The toolsets developed and the concept of intelligent content will be verified by experimental productions.
2 Summary of Activities

In its first year SALERO set the scene by analysing the different partners’ requirements based on a survey of the existing workflows and establishing reports on the state-of-the-art in the research fields of semantic content representation techniques and context based multimedia analysis. Initial prototypes as proof of concept have been developed.

Based on this SALERO is setting out to provide prototype tools which will be closely integrated into users’ workflows. These prototypes will be the basis for a first evaluation of how new tools ease, accelerate and reduce cost of the creation of intelligent content. This will be demonstrated within several Experimental Productions.

2.1 Analysis of Current Workflows and Requirements

In the first year of the project the current working environments of the user partners have been analysed. In particular the services offered and the workflows connected to those are described together with current issues and pitfalls. The domains span game design, high-end cinema postproduction, multi-channel audio-processing, computer animation for children’s programs, interactive presenters and non-linear storytelling.

To gain a better insight the technical partners visited the user partners’ sites to get an in-depth demonstration of existing workflows and tools.

Sixteen use cases have been identified detailing the tasks to be solved and the expected improvements from SALERO. This includes a description of the input and results of tasks, the actors performing the tasks and the environment (tools, software) currently used to solve them.

A media object dictionary has been established and is available on-line at the SALERO web page (http://www.salero.eu).

2.2 Plans for Experimental Productions

One of the SALERO main objectives is to guide, validate and evaluate the technological R&D of the project through the means of a series of experimental productions across a range of important media genres, based on scenarios defined by artists and creative media professionals. These productions have been designed and will be created in different categories:

- Information and entertainment programming
- Pre-school
- Interactive games

The industrial partners have already described the scenarios they will develop as experimental productions and they are now further developing the concepts. Creative teams have begun to draw-up scripts, illustrations and describe the pre-production processes to illustrate the specifications of each first prototype. These documents and some media objects will be completed by the end of SALERO’s first year.

These developed scenarios are providing a basis for the evaluation definition, and the first prototypes will provide the context and materials for field trials during the first half of the next project year.
2.3 Automatic Template-Based Media Production

One of the examples for template based media production is provided by the automatically generated weather forecast presentations. The presentations are a system in production, accessible from www.meteosam.com, which is updated frequently each day based on actual weather data.

Figure 1: Sefi and Kilo: Initial designs for two characters for the experimental productions.
The system is originating a variety of other results: “character based portals” beyond current voice portals; MMS related to the weather and related topics (such as snow predictions).

The power of automatic template-based media production is shown by a completely different example, the “Bar de Manolo” web, also in production (at http://www.elsesports.net/manolo) where audio clips (the speakers’ voice) coming from a radio programme are the basis for automatic generation of audiovisual clips. The speakers’ audio clips are of a fictitious Real Madrid supporter, Manolo, in a FC Barcelona environment. The web accepts comments from the public, which are meant to trigger responses from Manolo.
2.4 Intelligent Media Research

The research strands in SALERO namely media semantics, genre definition for intelligent content, context based search and retrieval, speech and language and template based media production (described above) all focus on the common aim to realise the concept of intelligent content.

Research on media semantics has generated a state-of-the-art report on semantic representation techniques for multimedia content (available on the SALERO website) as the basis for future work. Requirements for workflow and semantic annotations have been collected from the user partners.

In genre research we investigate how the genre of a production influences the workflow and the tools used to produce it. Genres classify fiction, films, games, television series, literature etc. As these media forms develop, so does the use of genre as a classification tool. It is very important that media productions are seen in relation to the definition of genres: the use of genres in common discourse of media productions creates certain expectations on the narrative, on iconography, characters etc. Genre is often determined during the process, but it would be more efficient if were to be decided at the beginning of the production. Different genres most certainly seem to require different kinds of workflows and needs in the production process. During the first year work concentrated on comparative analysis of the different genres to be used in SALERO.

Research in respect to context based search and retrieval is concerned with the development of techniques, models and systems for the retrieval of multimedia data. A retrieval system based on a low-cost classifier has been built and an interface which adaptively retrieves and presents multimedia objects with respect to user queries and interaction has been developed.

In relation to speech and language research the focus was on the implementation of a prototypic multilingual speech tagging framework to provide means of integration between acoustic speech analysis, linguistic analysis, lip-synching animation, speech synthesis and content storage and retrieval processes within the SALERO project.

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**Figure 3:** Screenshot of “El Bar de Manolo”
2.5 User Involvement, Promotion and Awareness

In addition to the user partners who are closely involved in SALERO an external user group with currently 13 members including post production companies, media archives and technology providers has been formed.

First results from experimental productions have been shown by Activa Multimedia (former Televisió de Catalunya Netmedia) during several events:

- MIPTV featuring Milia, April 2006, Cannes.
- 3GSM World Congress, February 2006, Barcelona.

Research papers stemming from SALERO were presented at the following conferences:

- IATEFL (International Association of Teachers of English as a Foreign Language), April 2006, Harrogate, United Kingdom.
- IVACS (Inter-Varietal Applied Corpus Studies) - University of Nottingham, June 2006, Nottingham, UK.
- EuroCALL (European Association for Computer Assisted Language Learning), September 2006, Granada, Spain.
- InterSpeech2006 (International Conference on Spoken Language Processing, ICSLP), September 2006, Pittsburgh, USA.
- XXII Congreso de la SEPLN, September 2006, Zaragoza, Spain.
- 6th Information Technology and Telecommunications (IT&T) 2006 Conference, October 2006, Carlow, Ireland.
- AES (121st Convention of the Audio Engineering Society), October 2006, San Francisco, CA, USA.
- IV Jornadas en Tecnología del Habla, November 2006, Zaragoza, Spain.
- ReCALL (Journal of EuroCALL Conference), article to be included in issue Q1/2007.

Further information about SALERO was distributed at the following events:

- Sound and Media Show, November 2006, Barcelona, Spain.
- IST-Event, November 2006, Helsinki, Finland.

SALERO partners are active in the harmonization of multimedia ontologies activity organised by aceMedia (http://www.acemedia.org) and in the W3C Multimedia Semantics Incubator Group (http://www.w3.org/2005/Incubator/mmsem/).
3 Future Work

Based on the work in the first year SALERO is setting out to providing prototype tools which shall be closely integrated into users’ workflow. Those will be the basis for a first evaluation within the experimental productions in respect to how they ease, accelerate and reduce the cost of the creation of intelligent content. In parallel to that software frameworks will be defined in depth with the aim to optimally support production of intelligent media.

During 2007 the experimental productions first prototypes will be finished and tested based on the evaluation plan. After this evaluation, new specifications for a second prototype will be defined.

An open-house event organized by Taideteollinen korkeakoulu (University of Art and Design Helsinki) will take place on 13 June 2007 in Helsinki presenting the interim achievements of SALERO. In July 2007 the Second Summer School on Multimedia Semantics organized by the University of Glasgow will be held in Glasgow with support from SALERO.
4 Further Information

SALERO Website including papers and public deliverables: http://www.salero.eu

SAM: http://www.meteosam.com

Manolo: http://www.elsesports.net/manolo
5 Glossary

Partner Acronyms

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<th>Acronym</th>
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<tr>
<td>AM</td>
<td>Activa Multimedia, ES</td>
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<tr>
<td>BLITZ</td>
<td>Blitz Games, UK</td>
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<tr>
<td>CINESITE</td>
<td>Cinesite Europe Ltd., UK</td>
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<tr>
<td>DIT</td>
<td>Dublin Institute of Technology, IE</td>
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<td>DTS</td>
<td>Digital Theatre Systems, UK</td>
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<td>FBM-UPF</td>
<td>Fundació Universitat Pompeu Fabra, ES</td>
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<td>GVG</td>
<td>Grass Valley Germany, DE</td>
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<tr>
<td>JRS</td>
<td>JOANNEUM RESEARCH Forschungsgesellschaft mbH, AT</td>
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<tr>
<td>LFUI</td>
<td>Leopold-Franzenzs Universität Innsbruck, AT</td>
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<td>PGP</td>
<td>Pepper's Ghost Productions Ltd., UK</td>
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<td>TAIK</td>
<td>Taideteollinen Korkeakoulu, FI</td>
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