



SALERO

Open House Promotion at LUME

SALERO Deliverable 10.5.4



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Author(s) and company: J. Tenhunen, M. Nieminen (TAIK);
C. Goodman (PGP); G. Holmberg,
M: Romeo (FBM-UPF); C. Cullen (DIT);
C. Monzo (URL); G. de Vilar (AM); R. Hackett (BLITZ);
M. Eladhari (keynote speaker)

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1 Executive Summary

SALERO Open House took place on 13th of June 2007 in Sampo Hall at the University of Art and Design Helsinki. Open House day was intended for the professionals and for the general public to give the public view of technological development, which is often less deep than it could be because of the lack of transparency in many fields, especially from industrial companies working in high-end technologies like digital media. The event was free of charge and open for everyone interested.

In addition to the program of the Sampo Hall in the lobby was shown stands of BONES workstation of multi-format solutions for film and feature-film acquisition, production, and post production by Thomson Grass Valley, and automatic facial animation tool by Universitat Pompeu Fabra GTI, and the demo of Full House interactive political TV-talk show concept by University of Art and Design Helsinki.

Following presentations were given: SALERO's Vision, Objectives and Results by Werner Haas as a coordinator of SALERO from Joanneum Research; Carl Goodman's, Pepper's Ghost Productions, presentation was 'Intelligent Content' and Reusable Media in Different Contexts; Merja Nieminen, University of Art and Design Helsinki, spoke about Genres in Media Production; Carlos Monzo, Universitat Ramon Llull gave presentation of Current Advances in Multilingual Speech Synthesis; Charlie Cullen, Dublin Institute of Technology, presentation was Speech and Linguistic Analysis; Marco Romeo, Universitat Pompeu Fabra, introduced Character Animation tools they have developed in GTI; Gunnar Holmberg, Universitat Pompeu Fabra, presented Audio (Tools) in Automatic Media Production.

SALERO's Experimental Productions were also presented: Geni de Vilar Font, Activa Multimedia, showed Hack the Van development; Richard Smithies, Blitz Games, amazed by Triage production; Juhani Tenhunen, University of Art and Design Helsinki presented the Full House concept; Carl Goodman, Pepper's Ghost Productions, gave a glimpse of the MyTinyPlanets.com children game concept.

Mirjam Eladhari, Department of Technology, Art and New Media at Gotland University in Sweden and School of Computing at the University of Teesside, UK, gave a keynote speech of Avatars Bridging the Semantic Gap. She proposes in her speech that the semantic gap could be bridged by use of the existing research in the area of virtual humans in the development of semi-autonomous avatars. These avatars would serve as an interpretation interface for the user, helping her to interpret the world on the world's own terms.

The event gave an instant and approachable overview to the SALERO project's state of the art.

2 Introduction

2.1 Purpose of this Document

SALERO intends to use the high profile media interest in anything 'Digital Media' (Games, Entertainment, Commercials, On-Line etc) to publicise itself both to professionals, and the general public. The public view of technological development is often less deep than it could be because of the lack of transparency in many fields, especially from industrial companies working in high-end technologies like digital media. SALERO will offer the opportunity to the public to have a look at the state of the art in intelligent Digital Media with some Open House days – like activities during the 'science week' organised each year by the EC (<http://www.cordis.lu/scienceweek>). "Science Week wants to put the 'wow' factor back into science and technology, stimulating interest in scientific research, no matter how simple (or complex) it may be" and Intelligent Digital Media is a perfect vehicle to increase the 'WOW' factor in high technology.

2.2 Scope of this Document

This report presents SALERO Open House event, which was organized in the University of Art and Design Helsinki on 13th of June 2007.

2.3 Status of this Document

This is the final version

2.4 Related Documents

As Open House event was supposed to represent all the research work done in SALERO and this report is supposed to describe the basic content of the event, the relations can almost be drawn to all the previous documents produced by SALERO partners in the project.

3 Open House Day

The SALERO Open House Day took place on 13 June, 2007 in Sampo Hall at the University of Art and Design Helsinki. In addition to the program of the Sampo Hall in the lobby was shown stands of BONES workstation of multi-format solutions for film an feature-film acquisition, production, and post production by Thomson Grass Valley¹, and automatic facial animation tool by Universitat Pompeu Fabra, and the demo of Full House interactive political TV-talk show concept by University of Art and Design Helsinki².

3.1 Programme of the Event

09:00 **Opening** (Philip Dean, University of Art and Design Helsinki)

09:10 **Welcome** (Yrjö Sotamaa, University of Art and Design Helsinki)

09:20 **SALERO's Vision, Objectives and Results** (Werner Haas, JOANNEUM RESEARCH)

09:40 **Keynote: Avatars Bridging the Semantic Gap** (Mirjam Eladhari, Department of Technology, Art and New Media at Gotland University in Sweden and School of Computing at the University of Teesside, UK)

10:20 Coffee

10:40 **'Intelligent Content' and Reusable Media in Different Contexts** (Carl Goodman, Pepper's Ghost Productions)

11:00 **Genres in Media Production** (Merja Nieminen, University of Art and Design Helsinki)

11:20 **From Media Production towards Self-Producing Media**

- **Current Advances in Multilingual Speech Synthesis** (Carlos Monzo and Xavier Gonzalvo, Universitat Ramon Llull)
- **Speech and Linguistic Analysis** (Charlie Cullen, Dublin Institute of Technology)
- **Character Animation** (Marco Romeo, Universitat Pompeu Fabra)
- **Audio (Tools) in Automatic Media Production** (Gunnar Holmberg, Universitat Pompeu Fabra)

12:30 Lunch

13:15 **SALERO's Experimental Productions**

- **Hack the Van** (Geni de Vilar Font, Activa Multimedia)
- **Triage** (Richard Hackett and Richard Smithies, Blitz Games)
- **Full House** (Juhani Tenhunen, University of Art and Design Helsinki)
- **MyTinyPlanets.com** (Carl Goodman, Pepper's Ghost Productions)

14:35 Coffee

14:50 **Panel discussion**

16:00 End of the Event

3.2 Introduction of the Open House Event

SALERO aims at making cross media-production for games, movies and broadcast faster, better and cheaper by combining computer graphics, language technology, semantic web technologies as well as

¹ Bones Open Post-Production Software workstation, <http://thomsongrassvalley.com>

² FullHouse an interactive political TV-show, <http://fullhouse.uiah.fi>

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 of the technical aspects of how the tools that they use actually work.

SALERO's overall 'Vision' is to 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 of the technical aspects of how the tools that they use actually work. Over the next ten years, we expect the application of new tools to transform the way in which media are produced.

3.3 The Target Group

Open House day was intended for the professionals and for the general public to give an instant overview of the work done in SALERO.

3.4 Presentations

All together thirteen presentations were given and a panel discussion. Eleven of the presentations is referred below, and two of them, by Werner Haas and Georg Thallinger, handled of SALERO's management and its overall vision, which is described in the 3.2 Introduction of the Open House Event chapter.

3.4.1 *Avatars Bridging the Semantic Gap (Mirjam Eladhari, Department of Technology, Art and New Media at Gotland University in Sweden and School of Computing at the University of Teesside, UK*

Through history humans have created knowledge representation systems in order to understand the world through abstraction, starting with systems for categorization to the sophisticated systems of today, which are both scientific, describing the existing, and fictional, describing and enacting imaginary worlds. The range of existing virtual game worlds shows us both the infinite variability of these systems as well as, given the generic feature sets used in these worlds, our need for standardisation and familiarity. These virtual world systems, such as the popular game world "World of Warcraft", are presented to the user "as is" which in turn creates a further need for the user to map out and abstract the world system in order to use it. Eladhari proposes in her speech that this semantic gap could be bridged by use of the existing research in the area of virtual humans in the development of semi-autonomous avatars. These avatars would serve as an interpretation interface for the user, helping her to interpret the world on the worlds own terms.

The past two years has shown us some important rapid developments;

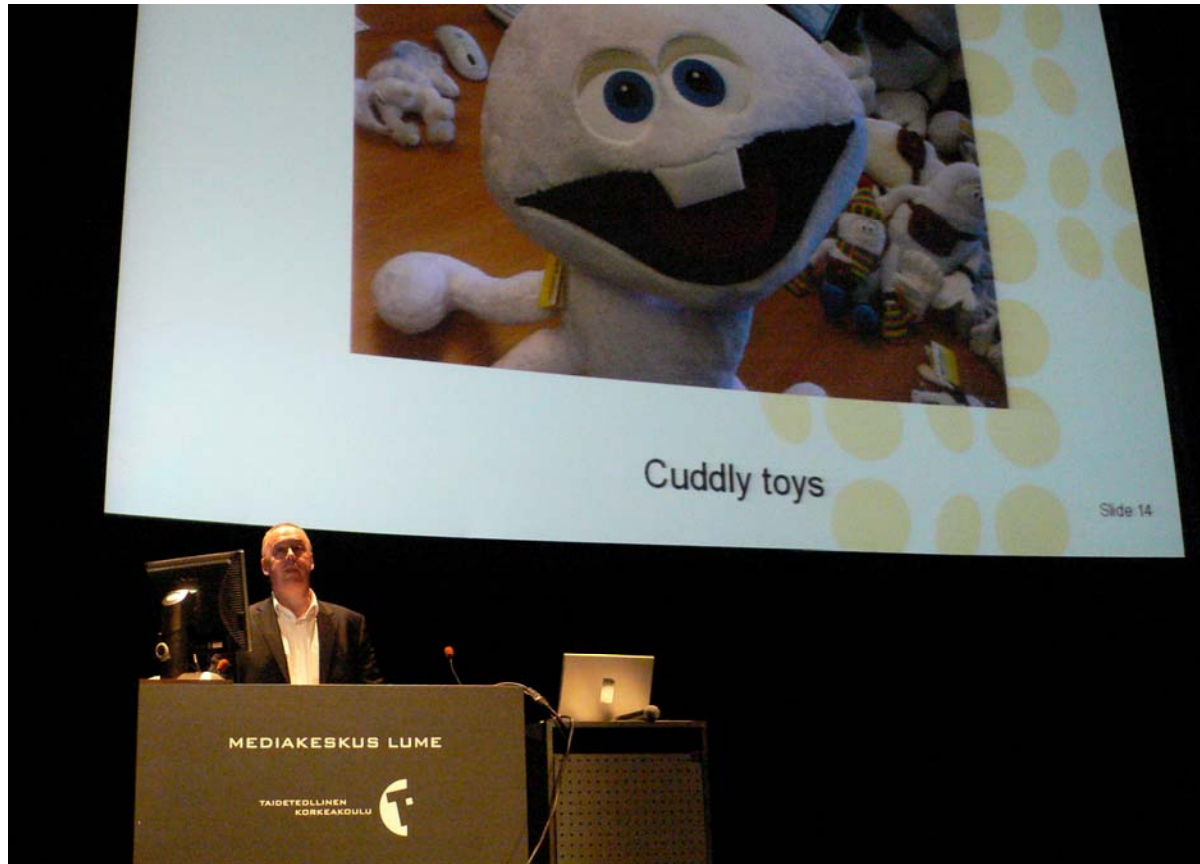
- an increasing popularity of internet services where users publish their own media of self expression,
- user-driven structuring of media content by tagging media objects,
- an increased sophistication of interfaces between software systems and programming syntaxes,
- users leaving agents "on their own" to express a real or fictive personality, such as avatars in virtual worlds performing "macroed" behaviours and conversational agents built with ALICE.
- an increased interest in connecting virtual worlds, visible in projects such as Croquet.

A standardisation of the formats and syntaxes used to build virtual worlds could make it possible for intelligent objects to be "free", traversing a multitude of virtual environments.

The past of our sciences, show us the sheer number of knowledge representation systems developed the past two thousand years, and that we as humans each carry our own ontologies and classifications. It is a matter of power what language, syntax or standard that will be used in a certain context. Hence it

is likely that the development will need to go towards creating interfacing tools between standards and formats in parallel with the necessary work of developing standards for common languages, formats and syntaxes.

3.4.2 *'Intelligent Content' and Reusable Media in Different Contexts (Carl Goodman, Pepper's Ghost Productions)*



Carl Goodman, Pepper's Ghost Production.

In this presentation PGP illustrated both the background issues and ongoing requirements for media repurposing and reuse in a variety of real-world applications. In the first instance it looked at the changing role of the independent producer and how fragmentation of media distribution channels has caused the format proliferation necessary to maintain profitability.

In the second instance it looked at the diversity of working practices even amongst closely related industries – in the example discussed a business-to-business application – which demonstrated how intelligent media will need to accommodate diverse working practices.

The conclusion was that the development of intelligent content is a long term task, and one which will need to encompass the wealth of traditional expertise accumulated within the media and associated to industries.

3.4.3 Genres in Media Production (Merja Nieminen, University of Art and Design Helsinki)

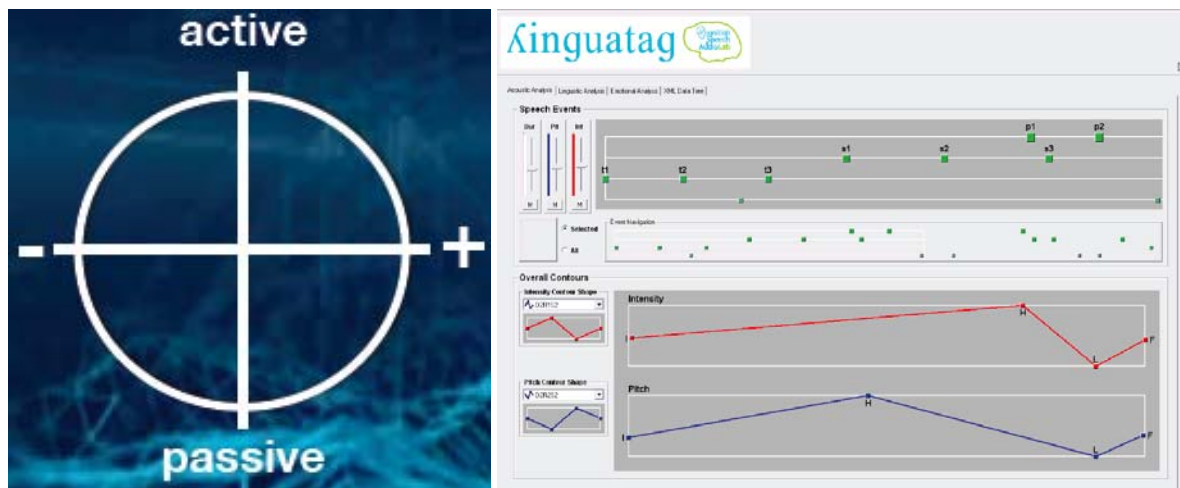


Blue Lady and Joker in FullHouse Demo production.

One of our research aims in TaiK Crucible Studio have been how to produce and create media objects that would be reusable from one media type to another or from one genre to another inside a single media type. During the spring we have produced four 3D characters in the process of making the SALERO experimental project Fullhouse Demo. Character's purpose in our production was to be singular beings that convey unique emotions and meanings. They are not merely trying to resemble for example human form but their purpose is to be abstract representations of ideas; sort of envelopes that hold their meaning inscribed in their forms, movements, identities and rhythms. 3D characters are fine tuned with all their properties to resemble the idea that lies behind. This is why they can cease to be interesting in other productions.

Hitherto we have reused parts of the characters that could be called technical: skeletons, textures and even some of the movements but see the development work in SALERO very encouraging to more advanced reuse of the characters. However the reusing the characters as main characters in feature films, may not necessarily be very practical, because the demands of originality and surprise.

3.4.4 Speech and Linguistic Analysis (Charlie Cullen, Dublin Institute of Technology)



Emotional dimensions in speech analysis and the user interface of LinguaTag tool.

The speech and linguistic analysis presentation from DIT covered the use of acoustic parameters in the determination of emotional dimensions in speech signals. DIT demonstrated how pitch, intensity and voice quality information for vowel events can be stored in a single SMIL output file for analysis. Further, prosodic contours and graded stress patterns were also shown, conforming to the logical rhythmic tagging framework proposed in D6.1.1 and D6.1.2. DIT demonstrated initial animations produced using the framework, in conjunction with PGP animators. This work will be continued in future months towards the M6.3 lip-synching animation milestone of T30.

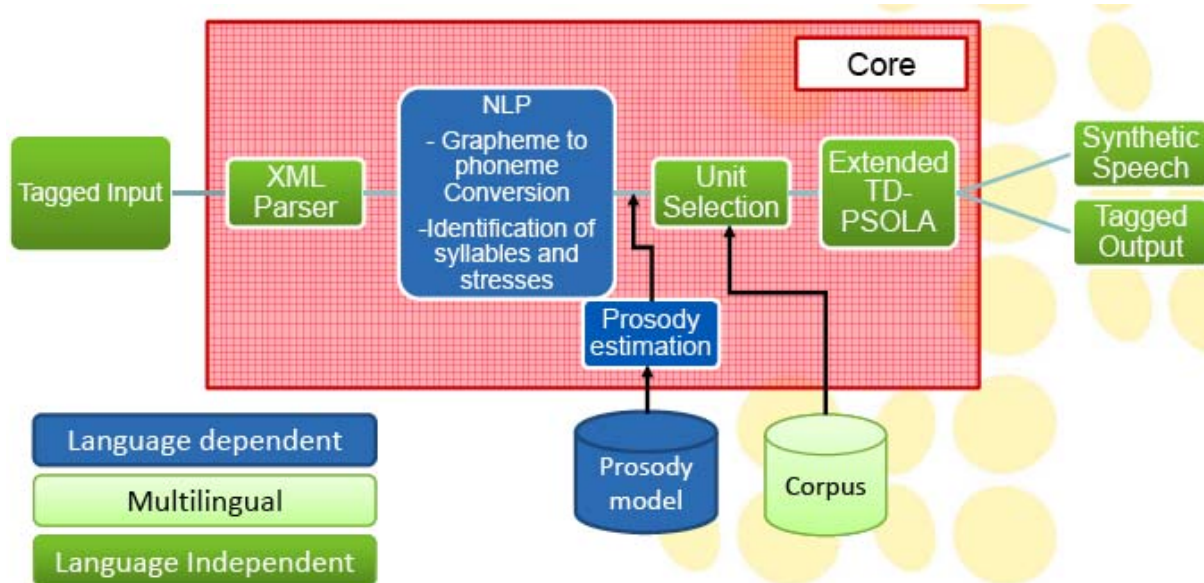
DIT also demonstrated the LinguaTag application, which is designed to perform both manual and automatic analysis of all the relevant information included in the logical rhythmic tagging framework. Examples were also given of assets obtained by co-operative mood induction experiments in DIT, which will form part of the D6.2.1 deliverable in T25. LinguaTag is currently in final testing, and will be provided to all partners for investigation. DIT also gave indications of future work with the FBM-GTI group to develop a plugin for 3DSMax or Maya which will allow LinguaTag output files to interface directly with GTI work on emotional dimension animation.

3.4.5 Character Animation (Marco Romeo, Universitat Pompeu Fabra)

Animations can be synthesized to produce algorithms that can generate or transform a wide range of animations automatically. In order to maintain the quality of existing hand-made animation it's necessary to extensively study how animation's theory, rules and genres can be modelled in a mathematic form and be included into animation algorithms. In this way the process of automatic animation will keep the focus of control onto art and character designers.

In that sense the work we are doing on character animation in the GTI from Universitat Pompeu Fabra is leading us to systematically study how the animation of a character can be generated or transformed, while maintaining the coherence with the character's physical and psychological features and animating, both the head and the body of the character, accordingly to his changing emotional status.

3.4.6 *Current Advances in Multilingual Speech Synthesis (Carlos Monzo, Universitat Ramon Llull)*



Multilingual Speech Synthesis system developed by Universitat Ramon Llull.

The “Current advances in Multilingual Speech Synthesis” presentation focused on the current approaches for multilingual speech synthesis systems (i.e. multilingual and polyglot). The main existing systems and their features were discussed and the URL case was noted in depth. Furthermore, emotional multilingual speech synthesis was introduced as future work. The different presented concepts were explained using schemes and different demonstrations in order to make easy their comprehension. Moreover, the standardization concept was emphasized with the aim of clarifying their importance. Finally, the references used during all presentation are included.

With regard to the work developed in SALERO, the first multilingual approach for URL synthesis system will be detailed in D6.4.1, whereas standardization efforts can be also found in D6.1.2.

3.4.7 *Audio (Tools) in Automatic Media Production (Gunnar Holmberg, Universitat Pompeu Fabra)*

Gunnar Holmberg (Head of Technology Transfer, MTG-UPF) presented the Music Technology Group of the Universitat Pompeu Fabra, Barcelona and their spin-off company BMAT (Barcelona Music & Audio Technologies) as being one of the world leading research institutes in the field of Music Information Retrieval and Voice and Audio processing, able to cover within its walls the entire line of basic research to very applied and industrial oriented R&D.

The work being done within the SALERO-project currently covers 3 plug-ins – Voice Transformation, Time Transformation, Advanced Equalizer – for audio production, and it was shown how these might facilitate the production chain in film-, game- and music-related audio production as well as significantly lower the production costs. Related to the work flow in media production, a Sound Effect Library Management System was also showcased. The system is able to automatically recognize and index all possible sounds, and automatically index large amount of audio data using content-based retrieval methods. The system has been tested over 700,000 sounds, and an intelligent search engine for sounds was build on top of it. All of these prototypes showcased on the SALERO open house event is going to be commercially deployed by MTG and its company BMAT before the end of the project, and several patent applications will be filed.

3.4.8 *"Hack the Van" Experimental Production (Geni de Vilar, Activa Multimedia)*

- This presentation was focused in the description of one of the SALERO experimental productions and their main features: "Hack the Van", from Activa Multimedia. This production will be a daily TV show based on music clips, with weather complementary section. It will be

aimed at young people and all the sections will be presented by virtual characters. The program will be automatically generated, so it can be daily produced without any person. First Prototype of this production will consist of the first scenes of the main presenters and the forecast section. Main effort of first prototype has been addressed to these technical achievements:

- Reuse of movements
- Automatic random scripts
- External play list data retrieval
- Template-based animation
- Combination of different audio generation sources

This prototype will be evaluated and the results of this evaluation will guide the on-going developments of the SALERO project and also the "Hack the Van" Second Prototype.

3.4.9 Triage (Richard Smithies, Blitz Games)

Richard Smithies CFO and Head of Serious Games at Blitz Games presented an early look at Triage Sieve, a medical simulation prototype developed under their TruSim banner. The research for this demonstration is part funded by the SALERO grant and makes use of development work carried out under WP7 and WP8. The prototype itself is funded by a separate DTI UK government grant and is in partnership with training experts VEGA Group and subject matter experts in the medical field.

The purpose of the prototype is to provide training for prioritization of casualties at an accident scene where medical resources are in demand. The prototype models a city street accident scene where injured casualties are shown with realistic representations of their physical condition to enable the medical responder to make informed choices about each victim.

The presentation showed the application of the research into realistic human characters and the progress made into improvement of their appearance, behaviour and movement. These improvements are done with mind to reducing production cost using techniques such as image scanning and procedural generation of animation and surface appearance. Research shown included mapping point cloud scans to a standardized face mesh, procedural eye movement, dynamic normal map blending from stress maps, emotional facial model, realistic muscle deformation and breathing, realistic effects for dynamic blood, sweat and skin pallor. Progress was also shown in the areas of character part modularity including clothing and injuries.

The prototype is due to be ready a few weeks after the presentation.

3.4.10 FullHouse concept (Juhani Tenhunen, University of Art and Design Helsinki)



The FullHouse logo.

FULL HOUSE is an interactive political talk show for TV and cross media. The audience can influence to the TV show through Internet or mobile connections (SMS and 3G) and can find information about election candidates and ask questions etc. Both the candidates and the viewers get a FULL HOUSE character by answering the questionnaire. In the demo we have three archetype characters, the Reds, the Greens and the Blues.

In addition to being an entertaining show, FULL HOUSE is also a tool to help select the best matching candidate from, in some cases, thousands of candidates. Its aim is to make politics more transparent and discover the hidden agendas of politicians. The answers of the candidates can be seen and compared to the answers of the other candidates. The service is best suited for elections with plenty of candidates like parliamentary, EU and local elections.

In the Media Lab of University of Art and Design election engines (as we call them) have been researched and developed in two research projects: Election Star and IntelCities (Intelligent Cities FP6 IST)

The development work continues and hopefully a broadcaster will be found for getting the development of the concept more concrete.

3.4.11 *MyTinyPlanets.com (Carl Goodman, Pepper's Ghost Productions)*

Pepper's Ghost Productions showed some historical projects and work in progress to highlight the productivity differences between the two. Tiny Planets has been sold to over 100 countries world-wide and demanded a large production team – around 70 people – working for nearly two years to produce. By contrast, the 'Spark and Socket' episode shown required only one animator and one technical director working for two weeks to produce, as a result of careful planning. The new 'Planet Assistant' character for the MyTinyPlanets website makes use of lip-synch timing data generated by Dublin Institute of Technology and will ultimately make use of the real-time animation technologies being produced by UPF.

4 Conclusions

Each of the partners of SALERO had prepared a presentation for the Everyman audience and that's why it was very accessible also for the multidisciplinary group of SALERO. In the project meetings the presentations do not give enough information to get an understandable image of the entire project. The comments of the audience were only positive. A comment of a game researcher: "It wasn't just a normal EU project event with PowerPoint presentations only, but very interesting research and development projects." The SALERO Open House Day gathered from 20 to 30 listeners outside SALERO partners. There were people from animation industry, telecommunications, and researchers and students.

Open House day was intended for the professionals and for the general public to give the public view of technological development, which is often less deep than it could be because of the lack of transparency in many fields, especially from industrial companies working in high-end technologies like digital media.

We were hoping a bit greater audience and the reasons for the lack of the audience can only be guessed. One of the reasons could be information of the event. Instead of expensive paper prints and using postal mail we relied on email lists and information in addition to SALERO's own website³, on CORDIS web site⁴, and the website of TAIK⁵ and Finnish Digital Content Business Cluster's website⁶. The first invitations to the list of about 500 cooperators of TAIK was sent about three weeks before the event and the fact sheet for the press was sent three days before the actual date.

Nevertheless the Open House Day succeeded among the audience there was and may be the even the best part of it was that all the partners get better understanding of the entire SALERO aims and what each of the partners are researching in it. As a conclusion could be found that such events help the project participants understand better the aims and objects of the project.

³ <http://www.salero.info/index.php?idcat=20>

⁴ <http://cordis.europa.eu/ist/kct/events.htm>

⁵ <http://www.uiah.fi> and <http://www.lume.fi>

⁶ <http://www.contentbusiness.fi/portal/>

5 References

- Bones Open Post-Production Software, <http://www.thomsongrassvalley.com>
Full House Demo of interactive political TV-show, <http://fullhouse.uiah.fi>

6 Glossary

Partner Acronyms

AM	Activa Multimedia, ES
BLITZ	Blitz Games, UK
DIT	Dublin Institute of Technology, IE
DTS	Digital Theatre Systems, UK
FBM-UPF	Fundació Universitat Pompeu Fabra, ES
GVG	Grass Valley Germany, DE
JRS	JOANNEUM RESEARCH Forschungsgesellschaft mbH, AT
LFUI	Leopold-Franzenzs Universtät Innsbruck, AT
PGP	Pepper's Ghost Productions Ltd., UK
TAIK	Taideteollinen Korkeakoulu, FI
UG	University of Glasgow, UK
UPF	Universitat Pompeu Fabra, ES
URL	Universitat Ramon Llull, ES