EU project CALLAS celebrates first year of results!

Added: (Tue Dec 18 2007)

The European project CALLAS which is advancing the state of the art in Digital Arts and Entertainment celebrates its first year of research and development.

This time it's not the legendary Maria Callas being honored, but an Integrated Project in research and development that's been named after her. CALLAS – Conveying Affectiveness in Leading-edge Living Adaptive Systems, a project co-financed by the European Commission under the Sixth Framework Programme, proposes the development of innovative technology – so called affective interfaces- within New Media and Digital Arts and Entertainment.

After twelve months of life, CALLAS has reached its first important results which are focused on the integration of new emotional models centered on a wider variety of sensations and emotions. These models aim to enhance the experience of the final user, whether situated in public places or the theatre to the transmission of interactive TV. These models and components for example will enhance the experience by capturing the emotional state of the spectator and final user across a wide recognition of their facial characteristics and expressions or from their paralinguistic expressions.

So, why does a project like CALLAS exist? Because in today's digital society, natural communication between people, based on gestures, movements, sounds and verbal expressions is imposed with a much greater emphasis on a new form of interaction, that being between people and machines. It is emotion, in all expressions, that has a fundamental role in the conditioning of natural communication between two people that must be emulated when service based interfaces are developed to enhance the interaction between people and machines. For this reason, the affective interfaces developed by CALLAS cover a fundamental role in the new media experiences like: Digital Theatre, Interactive TV, Augmented Reality Art and Interactive Public Performances.

Emotional multimodal interfaces aim at achieving the highest level of naturalness in human-computer interaction. One of the main challenges for CALLAS is to implement the concept of affective emotional input for interactive media rather than within a traditional interface paradigm. Affective and emotional interfaces are generally concerned with the real-time identification of user emotions to determine system response. They rely most often on emotions such as joy, fear or anger. However, interaction with new media such as interactive narratives, digital theatre or digital arts involves different ranges of emotions on the user's side, some of which correspond to responses to aesthetic properties of the media, or characterise the user experience itself in terms of enjoyment and entertainment. To identify these, more complex articulations of modalities are required. Such key aspects are currently being investigated within the CALLAS project in the specific area of Art and Entertainment applications.

CALLAS wants to demonstrate the real use of the multimodal affective interfaces across the implementation of concrete applications. These can improve a performance in the digital Theatre and also the recognition of the emotional states of actors on –stage, creating a virtual scenography. This is one of the application schemes that its launching from the creations in Digital Theatre of Studio Azzurro Produzioni, a cutting edge lab in New Media Arts, that is one of the partners of the project. At the same time, the affective multimodal interfaces can also contribute to the future development of art forms like interactive TV or other types of digital art based on the emotional-cognitive experience of the audience.

Some of the principal partners of the 19 organisations that make up the CALLAS consortium are the media giant BBC, a number of European Universities, and a variety of small and medium enterprises. The project co-ordinator is Engineering Ingegneria Informatica, Research and Development Department

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