SIEMPRE EU ICT FET Project   www.siempre.infomus.org

Organizer: University of Genoa, Italy
Stand: 5J8
Participants:

> Università degli Studi di Genova, DIBRIS, Casa Paganini – InfoMus Research Centre
> University of Geneva – Swiss Center for Affective Sciences
> Italian Institute of Technology, Genova
> Università di Ferrara

Is it possible to measure empathy or entrainment in a group of people? To determine who is the leader?, To detect which kinds of emotions are felt and how they impact on the expressive behaviours? How emotional contagion play a role? Ensemble musical performance and audience experience is here exploited as an ideal test-bed. Experiments include automated measure of human behavior in *string quartets*, *orchestras,* and *audiences*. Famous artists were recruited for SIEMPRE experiments, including conductor Riccardo Muti, violinist Renaud Capuçon, the Quartetto di Cremona and the Terpsychordes quartet. In the later stages of the project SIEMPRE collaborated with TANGO, a FET project dedicated to measuring interactive emotional experience. The ICT2013 booth presents theoretical framework and results from the project, and simple demos to measure nonverbal social signals using sensors in smartphones and using thermocamera. http://www.siempre.infomus.org

Art & ICT Podium activity
iDJ - social active music listening (Casa Paganini – InfoMus Research Centre)
Our lives are filled with experiences. Making such experiences unique and personalised, enriching them in a customised way is nowadays becoming a must. A straightforward way to reach this objective is to enable users to mould the multimedia content which is part of their experience. Moreover, mobile and communication technologies enable to share experiences in an easier and faster way, using multiple media. Thus, users become prosumers, by actively experiencing, moulding, and sharing content. Among multimedia content, music plays a special role, both as a key component of personal life and as aggregating factor in social experiences. Moreover, music is widely regarded as the medium of emotional expression par excellence. Music represents a clearly focused and uniquely defined domain for personalised social media applications and services.

This demo introduces technologies for **enabling socio-mobile embodied experience and retrieval of music content**.

The iDJ demo is conceived for two groups of three persons using smartphones: the groups may include persons from the audience and/or from our staff. One group is placed on the left and the other on the right part of the podium: spatial separation of the groups is important to enable the localization of the music sources near the group who is taking the control at each moment. The two groups are competing in a sort of game: the group who express, moment by moment, the best leadership and cohesion/entrainment, is the one that causes the choice of the music to be listened actively (and the music emerges from the position of the group). This is an example of a multimodal search engine (of music content) based on non-verbal social signals: in each group, when one of the three persons is doing a clear rhythm (e.g., shaking the phone or dancing keeping it in her pocket) and the other two follow her, then an emergent leadership is assumed. Features of the leader's movement and of the two followers are used to access an archive of music to select the song having features most "similar" to the movement qualities: rhythm/beat-per-minute, energy, fluentness. Once retrieved, the song is played from loudspeakers near the group, and group members have to cooperate to actively listen to it at best: the more they "tune" and "synchronize" their movements, the more the listening experience is enriched (e.g. by adding different instruments and voices). If the group members change together their behaviour (in terms of rhythm, energy, fluentness), or the other group shows a clearer joint movement, then a corresponding new song emerges and, again, is modulated by the winner group.
The archive of music that we propose at ICT2013 is a relatively small collection of European traditional folk music, from Portuguese fado to Lithuanian sutartine.
This demo is developed on the EyesWeb XMI software platform:

> http://www.casapaganini.org
> http://www.youtube.com/InfoMusLab

The SIEMPRE booth will also demonstrate the possibility to record thermal activities using a thermocamera designed to capture the human body temperature at distance with high spatial and temporal resolutions (Università di Ferrara, IIT, and University of Geneva).