

Goals

- Development of a sonic interactive space using tangible interfaces
- The *granulAria* installation: use of mobile phones as musical instruments.

Concepts

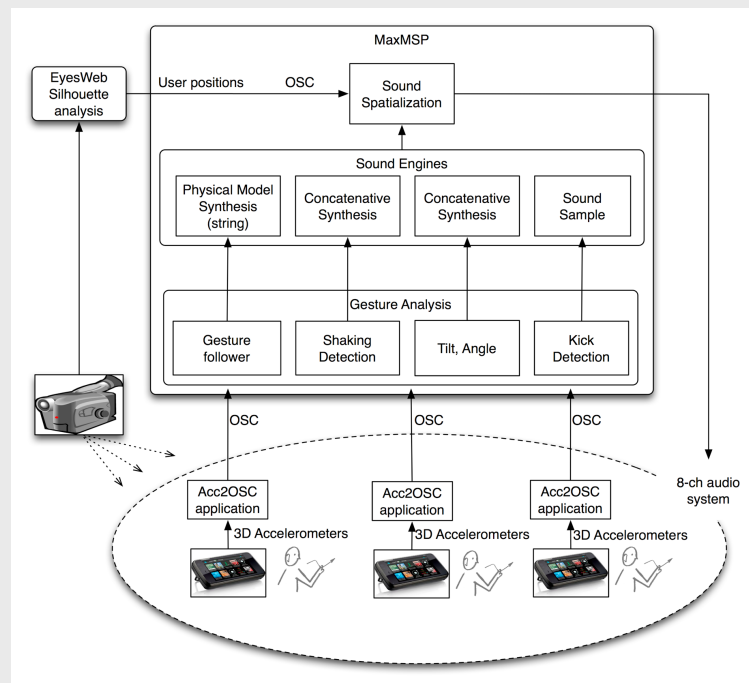
- Embodied musical interaction
- Active listening
- Collaborative/social interaction

Type of interactions

Different types of interactions are implied. A least 3 categories can be considered, as defined by Leman [1]

- “Interactions based on goal-directed gestures”,
 - Context – person- culture dependant,
- “Interactions based on mimetic skills, or rehearsed action scenarios”
 - conscient control of the user, as playing an instrument
- “Interactions based on direct episodic action sequence, involving responses based on our emotive, affective, and expressive capabilities”
 - inconscient control

Technical synopsis



Gesture Analysis (MaxMSP):

- Gesture recognition (gesture follower - *gf*)
- Kick detection
- Orientation analysis
- Shaking detection and intensity analysis

Sound synthesis engines (Max/MSP):

- granular synthesis, phase vocoder (superVP), concatenative synthesis (MuBu), physical model synthesis (Modalys)

Sound spatialisation (Max/MSP): *spat*

Scenario

The installation can be used in two different modes:

1. “free” mode
 Participants can, through their gestures, collaboratively control a rich sonic environment. Different gesture types are associated to different sound engines with their proper behaviour.
2. “challenge”. A first user, “the challenger”, is asked to perform one gesture she/he invents, which is sonified in real-time. The second user wins if she/he is able to reproduce the gesture. If not, the challenger must reproduce the original gesture to actually win the challenge.

Credits

Technical design and development: Bruno Zamborlin, Norbert Schnell;

Sounds and sound design from GrainStick by Pierre Jodlowski Additional sounds by Lorenzo Pagliei

Coordination: Frédéric Bevilacqua, Hugues Vinet, Olivier Warusfel;

Collaboration: UG-Dist (Eyesweb)

Acknowledgement

The SAME project is funded by the Seventh Framework Programme (FP7) of the European Commission DG INFOSO Networked Media Systems Unit

References

- [1] Marc Leman, Embodied Music Cognition and Mediation Technology, 2007...
 [2] Bevilacqua, F., Zamborlin, B., Sypniewski, A., Schnell, N., Guédy, F., Rasamimanana, N. Continuous realtime gesture following and recognition in Embodied Communication and Human-Computer Interaction, volume 5934 of Lecture Notes in Computer Science, pages 73–84. Springer Berlin / Heidelberg, 2010.