# Audiodome: SoundBlox & Playground

Audiodome SoundBlox is a new media platform consisting of sounding objects (large colored cubes with sides covered by amoeba-like structures) to be touched and interacted with. They react on being moved and represent a tool for constructing sound architecture.

Sound Objects describe the audible and visible experience emerging from a tight interplay of sensing, program control and multi-modal reactions on physical (tangible) interactions. Techniques such as interactive programming, sonification & visualization, sound synthesis involving sound archives and speech synthesis are used. The Soundblox are connected wirelessly and contain loudspeakers for spatially localized sound. Above the action space a ceiling camera matches the changing patterns, positions and spatial structures and rotation status of the cubes. All these characteristics have direct and instantaneous influence on the multi-modal feedback which closes the interaction loop. Just as the colors, individual sounds are rendered for the respective cube and characterize the SoundBlox as instruments. Soundblox are audio-haptic interface objects and both input and display medium. Current applications include collaborative sound architecture, story-telling, and interactive sonification.
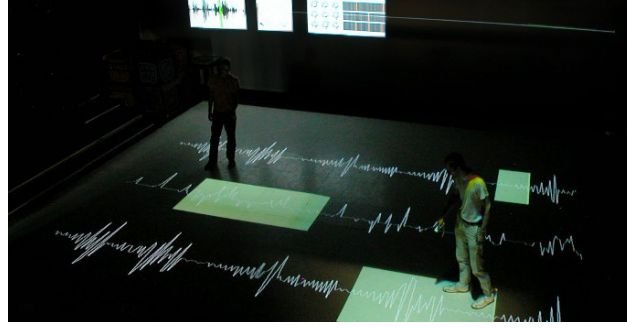
Audiodome Playground – A walkable 8 × 8m floor projection, combined with an 8 × 3m wall projection form the board of Audiodome Playground. The players interact using modified Wii controllers that have been integrated in the tracking system of the Animax.

The game world of Audiodome Playground includes several sound generators: among them are modules that are modelled on classic synths, physical models in which the user engages through corresponding physical actions, or sequence generators which display composition models of new music, such as of Iannis Xenakis. The visitors of this sonic playground are challenged to lead a common musical dialogue, or rather to merge their action to a musically meaningful whole.

animax citec
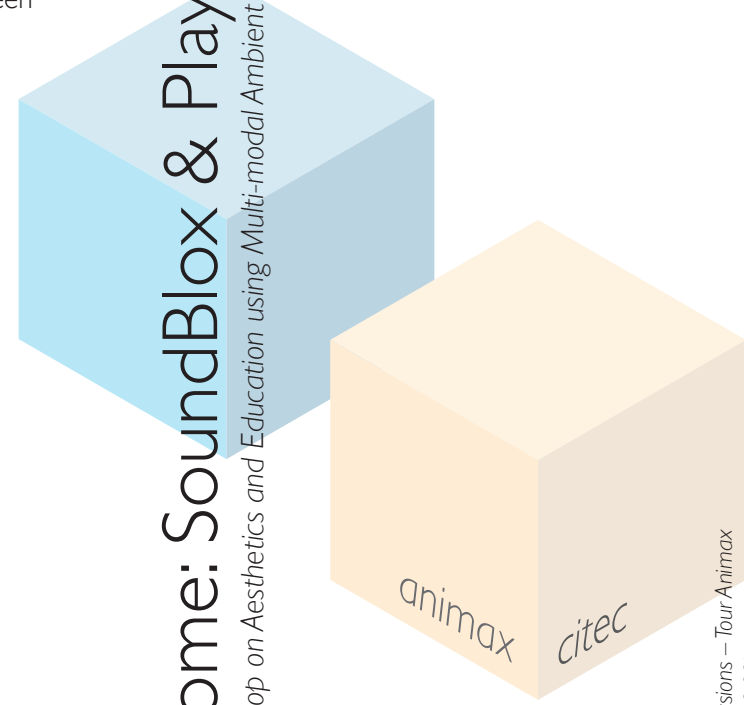
Two of the main focuses of the Animax are the creation and application of aesthetic perception and game environments by means of multi-modal interaction technologies. Collaborative motion- and group-oriented projects are being increasingly accepted by children, parents and teachers. Combining motion- and perceptual components has a profoundly positive effect on motivation, cognition and social behaviour. In the flow of community action, the children develop the ability to observe, organise, and memorise details and to experience spontaneous joy in intellectual tasks.

> Bodo Lensch (http://www.animax.eu)

The Ambient Intelligence Group at the Center of Excellence in Cognitive Interaction Technology (CITEC) at Bielefeld University develops new interfaces and interaction modes in the areas of smart environments, wearable and pervasive computing, augmented reality, tangible and surface-based interaction. As particular display method, sonifications, the auditory display of information, are developed with applications in interactive data exploration, closed-loop aiding of movements for sports, dance and musical instrument tuition, or visually impaired people, to name a few.

> Thomas Hermann
> (http://www.techfak.uni-bielefeld.de/ags/ami)

The installations Audiodome Playground and Audiodome SoundBlox – a work developed with the Ambient Intelligence Group at CITEC, Bielefeld University – are shown.

Program

11:00	Welcome Address and Introduction Bodo Lensch (Animax) Till Bovermann (CITEC, Bielefeld University)
11:15	Guide to the Animax
12:00	Tour to Previous Work
13:00	*Self-organized lunch break*

Keynote talks

14:15	Bodo Lensch: *Cultural Education: A New Motoric, Cooperation-based Approach*
14:45	Thomas Hermann: *Sonification for Multimodal Experiences and Exploration*

Hands-on Session

15:15	*Audiodome Playground* Presenter: Sven Hahne
15:30	*Audiodome Soundblox –* *Hidden creatures* Presenter: René Tünnermann, Till Bovermann
15:45	*Audiodome Soundblox –* *Music Sequencing* Presenter: Bodo Lensch
16:00	*Audiodome Soundblox –* *Graspable Data: Sonification at your hands* Presenter: Till Bovermann, René Tünnermann

Spotlight Presentations

16:15	Till Bovermann: *Tangible Auditory Interfaces*
16:30	Katharina Rohlfing and Bastian Kriesten: *Communicative Toys and Emergentist Semantics*
16:45	Sam Auinger: tbd.

Plenary Discussion on Perspectives of Technology for Preschool and Primary School Education

17:00	Bodo Lensch: *Some visions for preschool education*
17:15	Plenary Discussion with Bodo Lensch, Till Bovermann, Georg Spehr, Katharina Rohlfing, and Sam Auinger
17:45	Closing and Farewell
18:00	Departure

25th August 2010, 11h-18h
Animax Bonn, Bad Godesberg
Moltkestr. 7-9 (Kinopolis Building)

Organized by
Bodo Lensch (Animax), and
Thomas Hermann (CITEC, Bielefeld University).

Speakers and Presenters
Sam Auinger, Till Bovermann, Sven Hahne , Thomas Hermann, Bastian Kriesten, Bodo Lensch, Katharina Rohlfing, Georg Spehr, and René Tünnermann.