Introduction

These are the proceedings of the ISon 2010 meeting, which is the 3rd international Interactive Sonification Workshop. The first ISon workshop was held in Bielefeld (Germany) in 2004, and a second one was held in York (UK) in 2007.
These meetings:

- focus on the link between auditory displays and human-computer interaction
- bring together experts in sonification to exchange ideas and work-in-progress
- strengthen networking in sonification research

High quality work is assured by a peer-reviewing process, and the successful papers were presented at the conference and are published here.
ISon 2010 was supported by COST IC0601 Action on Sonic Interaction Design (SID) (http://www.cost-sid.org/).

About Interactive Sonification

Sonification & Auditory Displays are increasingly becoming an established technology for exploring data, monitoring complex processes, or assisting exploration and navigation of data spaces. Sonification addresses the auditory sense by transforming data into sound, allowing the human user to get valuable information from data by using their natural listening skills.
The main differences of sound displays over visual displays are that sound can:

- Represent frequency responses in an instant (as timbral characteristics)
- Represent changes over time, naturally
- Allow microstructure to be perceived
- Rapidly portray large amounts of data
- Alert listener to events outside the current visual focus
- Holistically bring together many channels of information

Auditory displays typically evolve over time since sound is inherently a temporal phenomenon. Interaction thus becomes an integral part of the process in order to select, manipulate, excite or control the display, and this has implications for the interface between humans and computers. In recent years it has become clear that there is an important need for research to address the interaction with auditory displays more explicitly. Interactive Sonification is the specialized research topic concerned with the use of sound to portray data, but where there is a human being at the heart of an interactive control loop. Specifically it deals with:

- interfaces between humans and auditory displays
- mapping strategies and models for creating coherency between action and reaction (e.g. acoustic feedback, but also combined with haptic or visual feedback)
- perceptual aspects of the display (how to relate actions and sound, e.g. cross-modal effects, importance of synchronisation)
- applications of Interactive Sonification
- evaluation of performance, usability and multi-modal interactive systems including auditory feedback

Although ISon shines a spotlight on the particular situations where there is real-time interaction with sonification systems, the usual community for exploring all aspects of auditory display is ICAD (http://www.icad.org/).

Contents

These proceedings contain the conference versions of all contributions to the 3rd International interactive Sonification Workshop. Where papers have audio or audiovisual examples, these are listed in the paper and will help to illustrate the multimedia content more clearly.
We very much hope that the proceedings provide an inspiration for your work and extend your perspective on the new emerging research field of interactive sonification.

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ISon 2010 Organisers