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Data sonification artworks : a music and design investigation of multi-modal interactive installations.

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Abstract

Through three case studies this research report will explore the design and multi-modal attributes of interactive installations that feature characteristics comparable to those of musical instruments. It will briefly outline and define data sonification and the five sonification techniques: Audification, Auditory Icons, Earcons, Parameter-mapping sonification and Model-based sonification. Model-based data sonification will be more closely explored, as interactivity and the incorporation of multiple modes are key elements within these types of sonifications. Pre-existing knowledge of musical instruments, their multi-modal attributes and functionality will be analyzed in relation to the case studies. The design analysis will focus on the interaction and interface design while incorporating the three modes, namely: visual guidance, real-time physical/gestural interaction, and instantaneous acoustic feedback. To conclude, this research report will demonstrate, through the case studies, that the function and design of musical instruments can be suggestive in realizing a potential way forward for digital artists and their multi-modal interactive installations.