Short Paper

IMPLEMENTING THE SPATDIF LIBRARY

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ABSTRACT

Here we have an abstract

1. INTRODUCTION

2. HISTORY OF THE PROJECT

SpatDIF was coined in [3] when Peters stated the necessity for a format to describe spatial sound scenes in a structured way, since at that time the available spatial rendering systems all used self-contained syntax and data-formats. Through a panel discussion [1, 2] and other meetings and workshops, the concept of SpatDIF has since been extended, refined, and consolidated.

After a long and thoughtful process, the SpatDIF specification was informally presented to the spatial sound community at the ICMC 2011 in Huddersfield in August 2011, at a workshop at the TU-Berlin in September 2011 and in its current form in a Computer Music Journal article in 2013 [] The responses in these meetings suggested the urgent need for a lightweight and easy to implement spatial sound scene standard, which could contrast the complex MPEG specification [4]. In addition, many features necessary to make this lightweight standard functional were put forward, for example the capability of dealing with temporal interpolation of scene descriptors.

3. CONCEPTUAL EXPLANATION / STRUCTURE

what is SpatDIF?
score-example in XML / JSON
format of SpatDIF 'bundle'

4. CURRENT ACTIVITIES

5. LIBRARY DETAILS/STRUCTURE

definition/features/tasks of the lib
interfaces in/out → (native C/C++ / OSC)
class structure
fileparsing XML/JSON
OSC 1.0
how to query in 3 lines (C++ code snippet)

6. REFERENCE RENDERER

The SpatDIF library is complemented with an Application that serves as a reference implementation and test-platform or a real-world usage of spatDIF files. It can validate spatdif-files in XML and JSON formats and be used to check OSC-formatted network streams of SpatDIF statements. The
app scope / what does it do
app interfaces to lib → task distribution between app and lib
i.e. scheduler
or sockets / file-IO

References

[1] Gary S. Kendall, Nils Peters, and Matthias Geier. "Towards an Interchange Format for Spatial Audio Scenes". In: *Proc. of the International Computer Music Conference*. Belfast, UK, 2008, pp. 295–296.

[2] Nils Peters. "Proposing SpatDIF - The Spatial Sound Description Interchange Format". In: *Proc. of the International Computer Music Conference*. Belfast, UK, 2008, pp. 299–300.

[3] Nils Peters, Sean Ferguson, and Stephen McAdams. "Towards a Spatial Sound Description Interchange Format (SpatDIF)". In: *Canadian Acoustics* 35.3 (2007), pp. 64–65.

[4] E.D. Scheirer, R. Vaananen, and J. Huopaniemi. "AudioBIFS: Describing audio scenes with the MPEG-4 multimedia standard". In: *IEEE Transactions on Multimedia* 1.3 (1999), pp. 237–250.

7. AUTHOR'S PROFILE

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