TIMESIDE, A SCALABLE AUDIO PROCESSING FRAMEWORK AND API WRITTEN IN PYTHON

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ABSTRACT

TimeSide is an open source audio processing framework written in Python enabling low and high level audio analysis, imaging, transcoding, streaming and labeling. Its high-level API is designed to enable complex processing on very large datasets of any audio or video assets with a plug-in architecture, an secure extensible backend and an dynamic web frontend. It embeds many state-of-the-art processing libraries, a RESTFul API and a Docker composition in order to be used as a scalable web service installable in a few minutes. The potential use cases are: scaled audio computing (feature extraction, filtering, machine learning, etc), web audio visualization, fast audio process prototyping, realtime and on-demand transcoding and streaming over the web, automatic segmentation and labeling synchronized with audio events. In this paper, some experimental as well as production examples will be presented on the basis of collaborative web platforms where computational musicology methods are targeted. It will be shown in particular how the framework resolves some usual problems dealing with a large number of dependencies, versioned data and human inputs in the field of reproducible research and production.

1. INTRODUCTION

1.1 Context and motivation

As the number of online audio applications and data increase, ...

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$$E = mc^2 \qquad (1)$$

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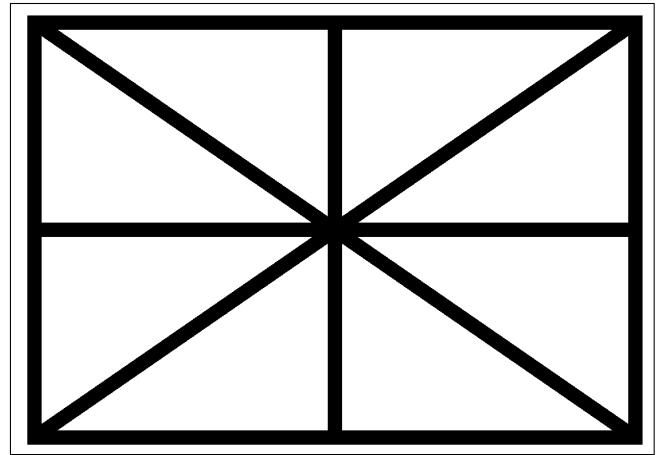
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9. REFERENCES

[1] E. Author. The title of the conference paper. In *Proceedings of the International Symposium on Music Information Retrieval*, pages 000–111, 2000.

[2] A. Someone, B. Someone, and C. Someone. The title of the journal paper. *Journal of New Music Research*, A(B):111–222, 2010.

[3] X. Someone and Y. Someone. *The Title of the Book*. Editorial Acme, Porto, 2012.