

OSSIA ↔ FAUST

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ABSTRACT

The *ossia* ecosystem is a set of libraries and software used in the context of interactive art and music. In particular, *ossia score* is a generic sequencer for interactive media. In this workshop, we will introduce the participants to the *ossia* software, and in particular its integration with Faust which allows to score Faust programs in a timeline. By the end of it, participants should be able to write their own scores which create and processes sounds with Faust code or leverage the existing library of Faust programs.

1. INTRODUCTION

ossia score [1] is a free and open-source sequencer available for macOS, Windows and Linux. It features a Faust integration : that is, users of the software can write Faust code directly and have it run during different parts of the scores.

We propose a workshop to allow interested parties to :

- Learn the basics of scoring with *ossia score* : how to play a sound, automate a control, implement loops and hierarchic behaviours.
- Learn how to leverage the Faust integration : how to create effects and synthesizers, save programs and reuse them in the user library, and change them on the fly in a live code context.

The software can be freely downloaded at ossia.io. The workshop does not assume any level of knowledge in either Faust or *ossia score*.

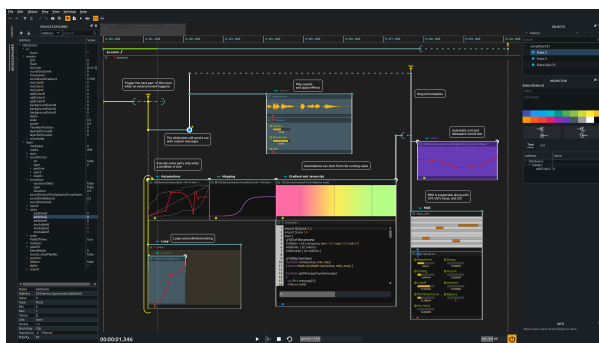


Figure 1: An example score in *ossia score*

2. CURRICULUM

2.1. Presentation of *ossia score*

This first part will present the *ossia score* software to the audience.

A small primer on the software model [2] will be presented given enough interest from the participants. Basics will be covered (loading, saving, playback, adding sound files, MIDI tracks, automations). Then, the more advanced features of score, allowing for interactivity design, will be presented. They are not, however, the focus of this workshop.

2.2. Scoring Faust code

We will first use the existing extensive library of Faust code to present how an existing Faust device can be inserted in a score, and integrated to the other features of the software : automations, loops, MIDI piano-rolls, etc.

2.3. Writing Faust code in *ossia score*

2.3.1. Filters

We will first create a simple audio filter, with a control that has a custom range. This control will then be updated from score either through automation curves, LFOs or through external control, e.g. OSC or MIDI.

2.3.2. Synthesizers

Then, we will create a simple polyphonic synthesizer and integrate it with MIDI data originating from score, either through a live input or a piano roll.

2.4. Live coding

We will give a small example / live performance of changing Faust code on the fly, having it recompiled, and continuing to generate sound.

2.5. Faust as a sound spatialization mechanism

We will look at the *spat* object given by Faust : this will allow to give a primer on how to handle sound spatialization in score ; in particular, how does multi-channel processing works and how to do more than stereo, etc.

3. REFERENCES

- [1] Jean-Michaël Celerier, Pascal Baltazar, Clément Bossut, Nicolas Vuaille, Jean-Michel Couturier, and Myriam Desainte, "OSSIA: Towards a unified interface for scoring time and interaction," in *TENOR2015*, Paris, France, May 2015.
- [2] Jean-Michael Celerier, *Authoring interactive media : a logical & temporal approach*, Theses, Université de Bordeaux, Mar. 2018.