Halmstad's university

Advanced Oriented Object Programming

Sound editor framework

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Introduction

This sound-editor framework proposes to its user to : synthesise, visualize and modify the sound through different effects and filters with the possibility the manage the volume. The required inputs to create a sound are the frequency (Hz), the duration (s) and a volume. It allows the class user to build its own step sequencer, delivered with ready-made sounds and effects.

Design and structure

The main criteria to build the structure of this framework was the expandability, we wanted the class user to be easily able to add more functionalities and use the framework with ease. This is why we aimed for this framework to be as much modular and generic as possible. To reach this goal, we had no choice but using design patterns. We can see that the model/view/controller architecture is used, which is represented here with the Sound as the model, the View is obviously a view.

The Strategy pattern is used several times, for the choice of the signal, of the filter and the effect.

Testing

Some interesting parts of the code

Results

Sources