



Real-Time Corpus-Based Concatenative Synthesis with **CataRT**

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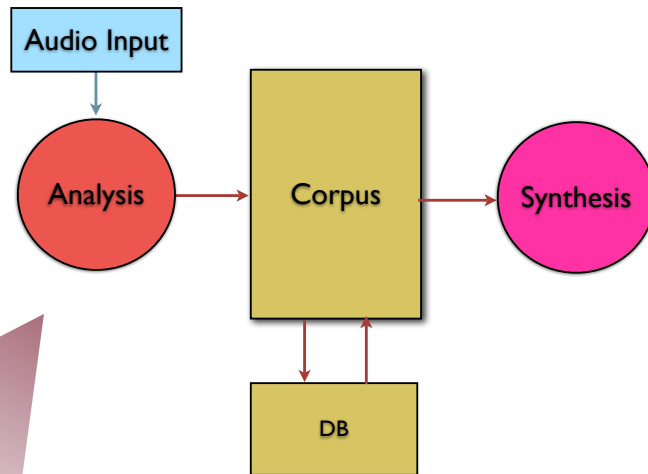
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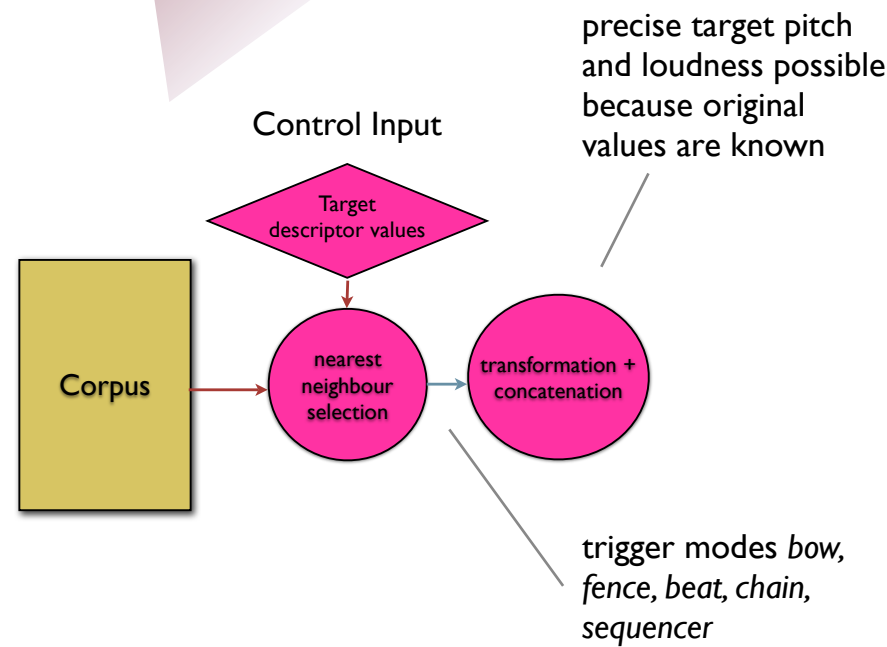
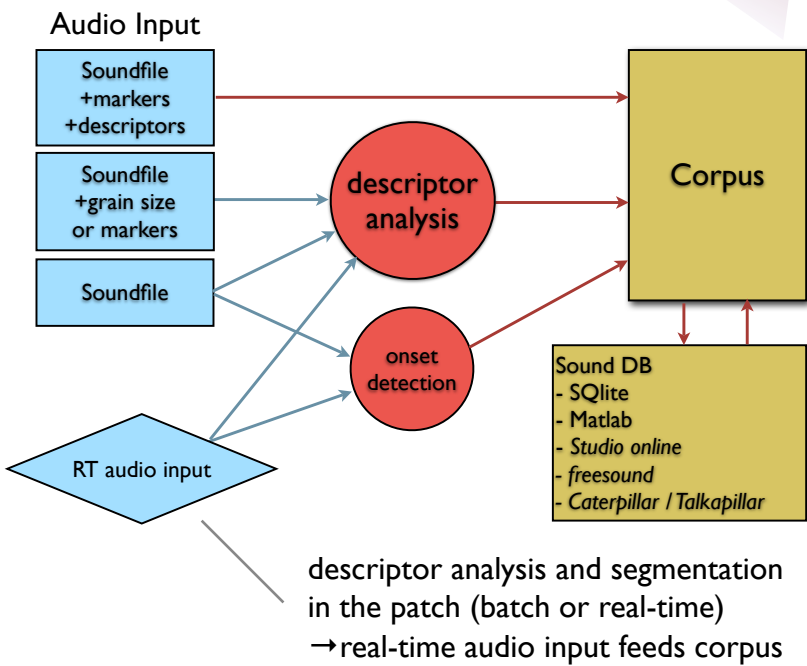
Overview

- Synthesis by selection of sound units from a corpus and concatenation
- Based on descriptor analysis and temporal modeling of their evolution
- Local selection in lower-dimensional projection of descriptor space
 - unit closest to a target point
 - random selection of units within a radius
- Can be seen as *content-based granular synthesis*



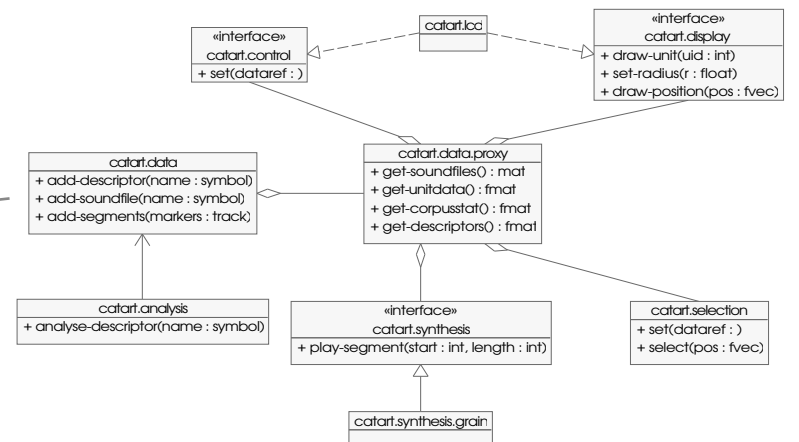
Motivation

- Work with all the nuances of *real* sound
- Large sound databases exist, ready to use
- New method → new sound creation
- *Data-driven vs. rule-based* approach



Implementation

- Patch for Max/MSP with FTM/Gabor/MnM, see <http://www.ircam.fr/ftm>
- Model–View–Controller architecture, semi-dynamic, UML-documented
- Distributed under GNU GPL on <http://concatenative.net>



Applications

- Interactive descriptor-based exploration of sound databases (*browsing*)
- Gesture-controlled synthesis in optimised sound space
- Audio-controlled synthesis (*mosaicing*)
- Data-driven drumbox
- Expressive speech synthesis
- Texture synthesis (*ambiances, soundtracks*)

