



Granular synthesis for foley sounds

Group 7: LemonJuice

Guglielmo Fratticioli

Chiara Lunghi

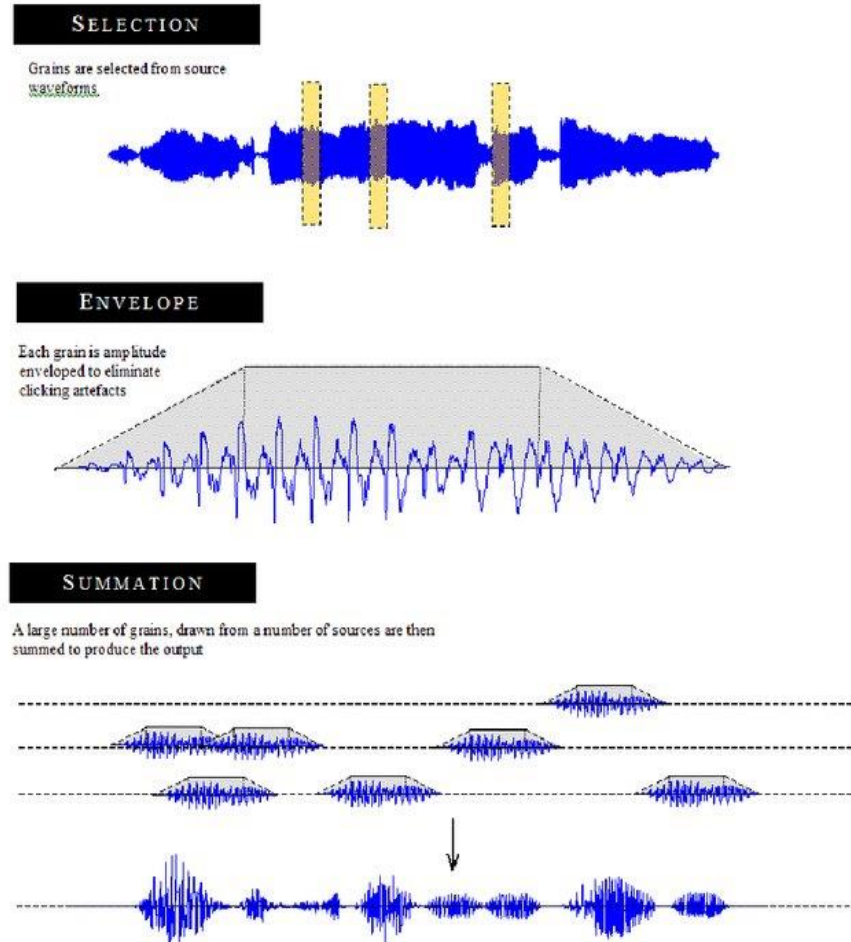
Alessandra Moro

Elia Pirrello



POLITECNICO
MILANO 1863

Introduction to the grain synthesis



- Manipulate small fragments of sound called "grains"
- ↓
- Allows mixing any pair of samples together, from a selection of 13 different sound samples
- ↓
- It can be controlled by parameters like grain duration, granular drift and frequency



SynthDef

BufRD.ar

read sound and
play in real time

Pitchshift.ar

transpose by
semitones

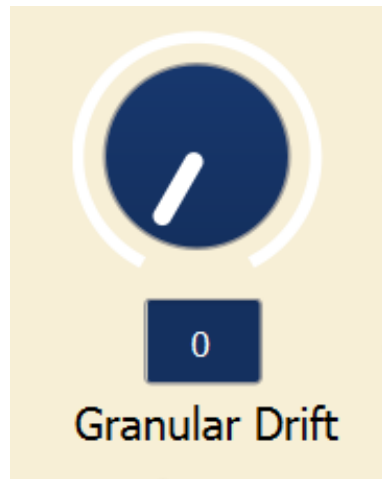
Grain.In

granulation

Limiter.ar

prevent the signal
from clipping

Implementation



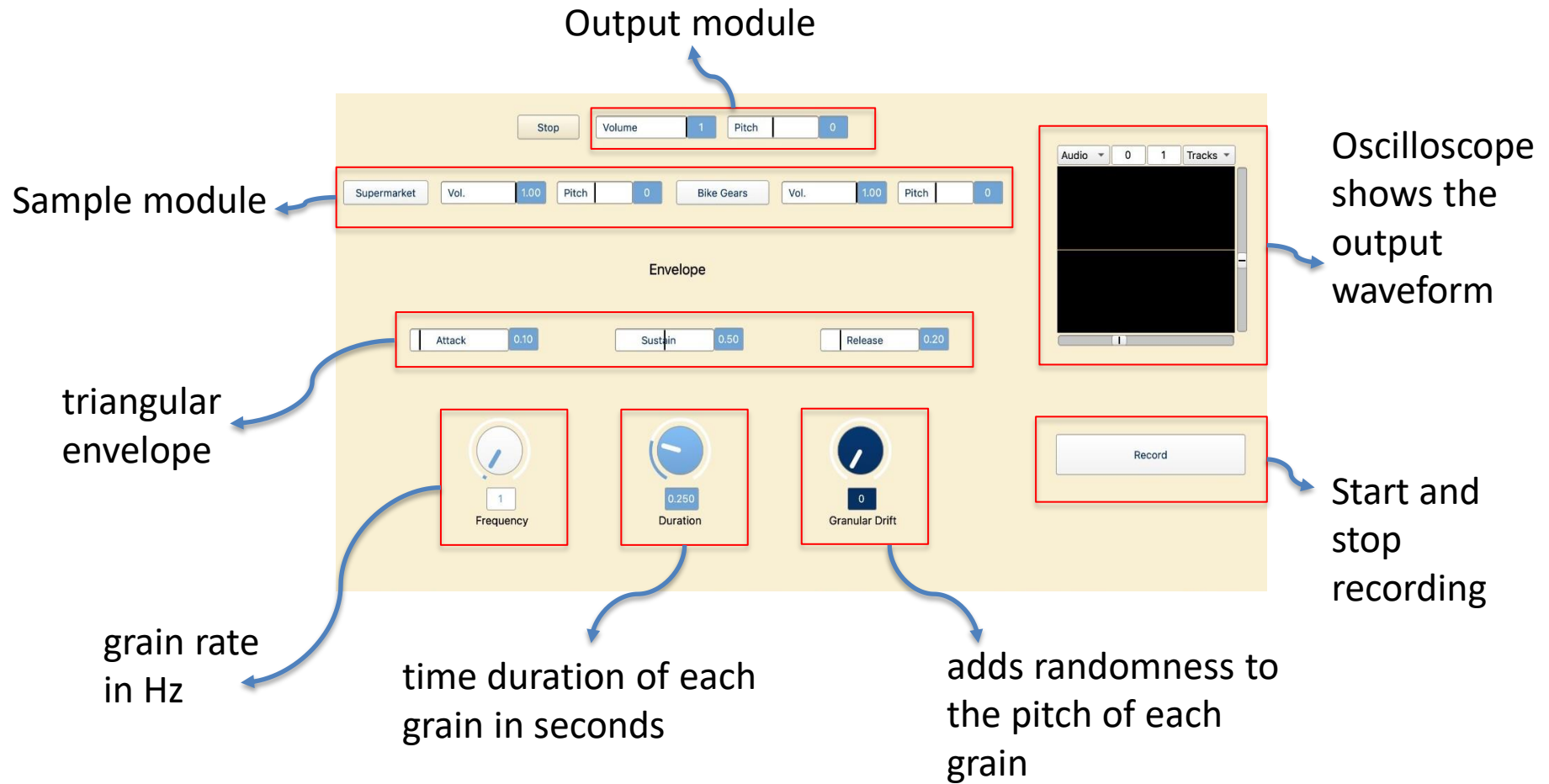
Taking grains over time

Set of grains out of tune with each other

Randomness of grain intonation



The GUI



Conclusions

Realistic examples of foley sounds were created:

- Helicopter
- foot steps
- hail on the window
- a horror factory ambiance
- the distinct sound of a mining cart moving



Grain . In function was not as adjustable as we expected

Despite this limitation, incorporating pitch shifters and a limited number of audio samples has resulted in pleasing timbral variations in the outcomes