Queue System:

* 680188 7 وليد؟

Variables: sample rate, buffer length

- sample rate: The number of samples per second
- buffer length: The length of the buffer as a whole, in seconds.
- pieces count: The number of pieces the buffer is made of, must be 2 or bigger.

~~Note~~ **Generator**: Generates samples for the given parameters:

- frequency
- amplitude
- waveform
- effect
- panning
- length

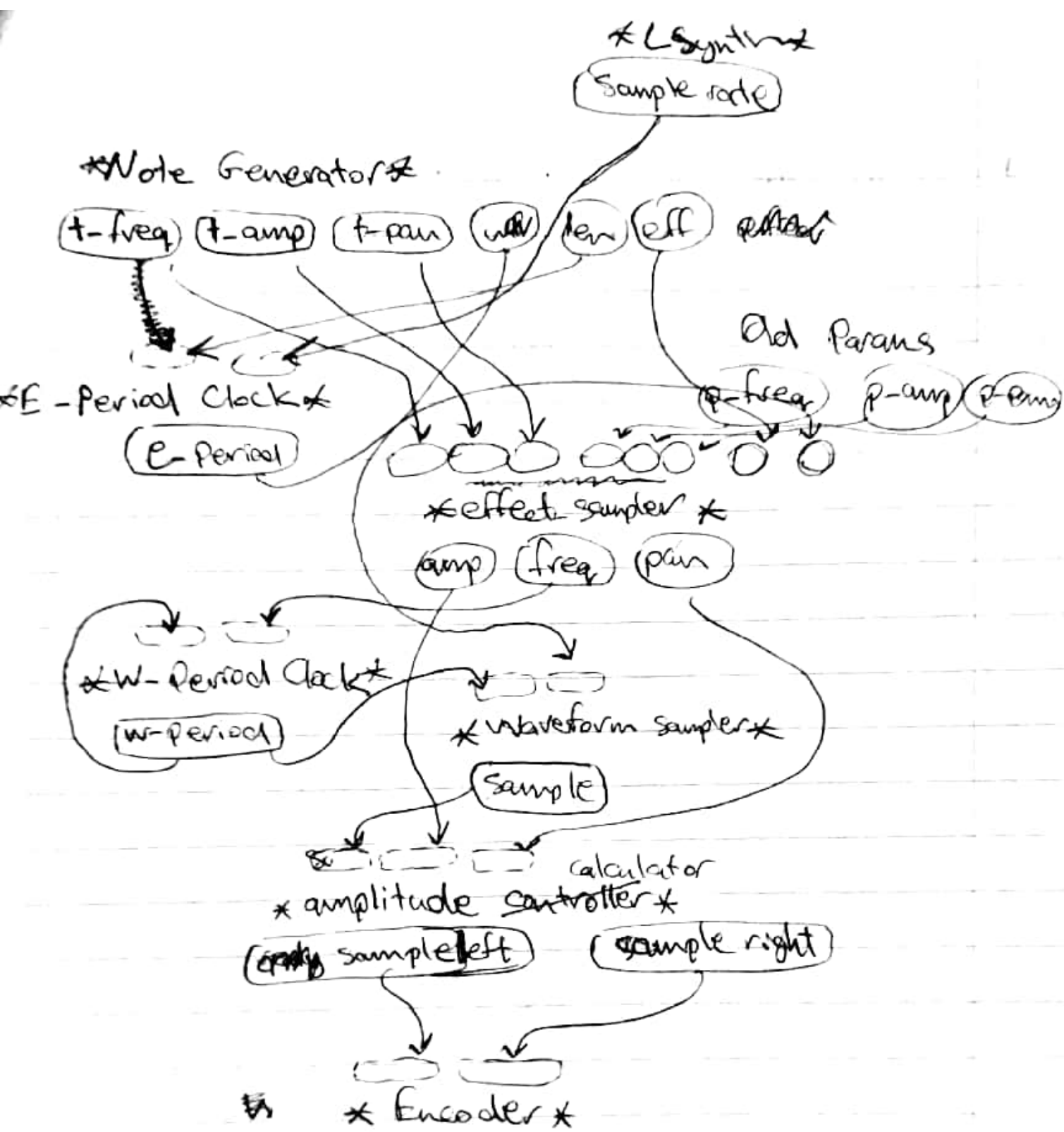
Waveform Sampler: Generates a sample for the given cycle period (a float ∈ [0, 1[)

Parameters: • waveform • period } Output: • sample

Effect Sampler: Generates the current parameters modifiers for a given period, a value which is [0, 1[, 0 at the start, 1 after the note length.

Parameters: • previous_amplitude • previous_frequency • previous_panning • period • target_amplitude • target_frequency • target_panning

Output: • amplitude • frequency • panning



Note generator ⇒ E-Period Clock → Effect Sampler

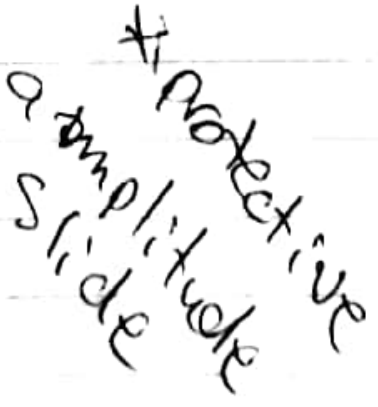
Old params

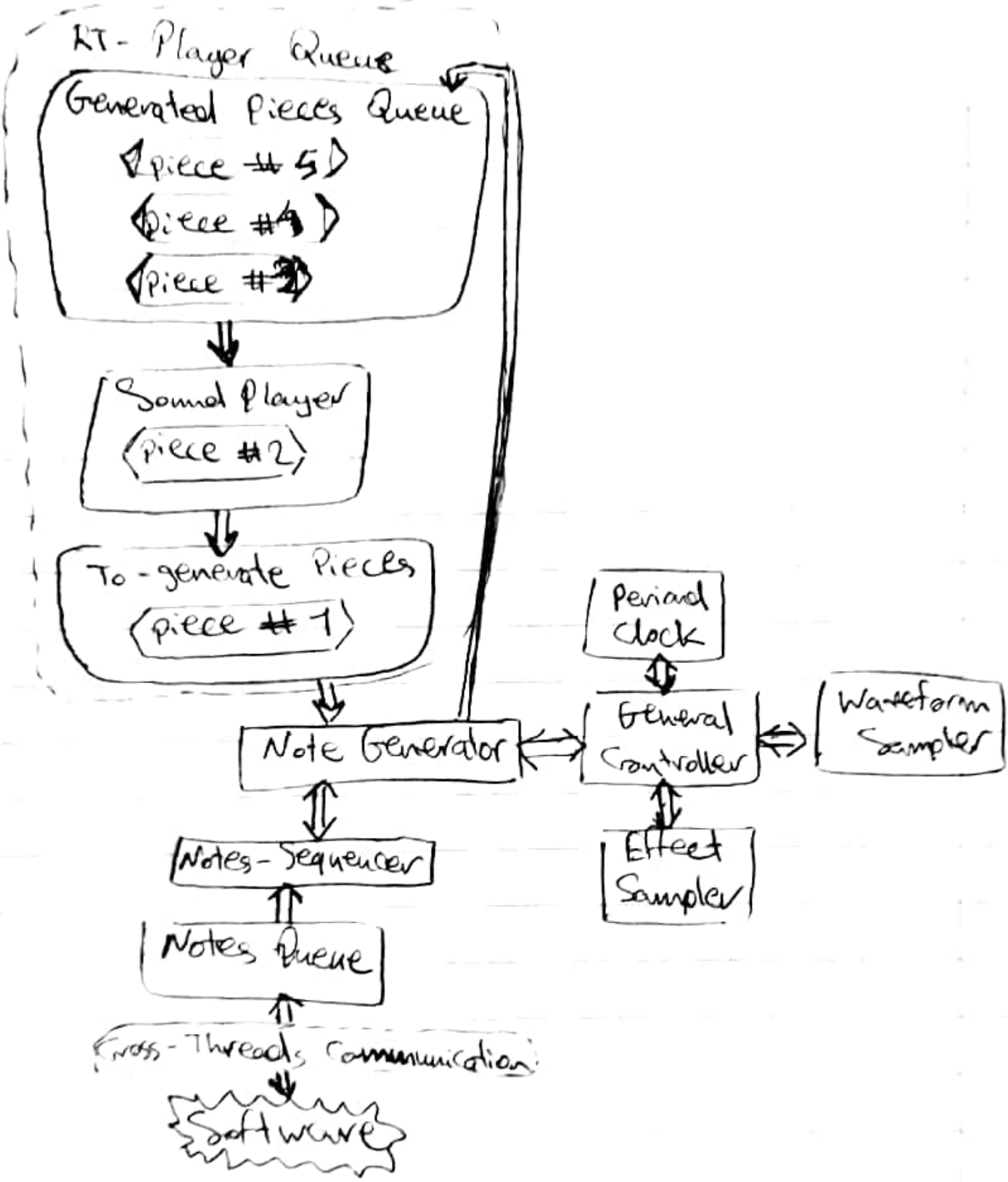
Note generator ⇒ Effect sampler ⇒ waveform sampler

⇒ Samples calculator ⇒ Encoder

Effects to support:

pitch slide up ◿
pitch slide down ◺
vibrato ∿∿∿
Volume slide ◺/◿
Tremolo ⦚




RT - Player Queue
Generated Pieces Queue
Piece #5
Piece #4
Piece #3
Sound Player
Piece #2
To-generate Pieces
Piece #1
Note Generator
Period Clock
General Controller
Waveform Sampler
Effect Sampler
Notes-Sequencer
Notes Queue
Cross-Threads Communication
Software

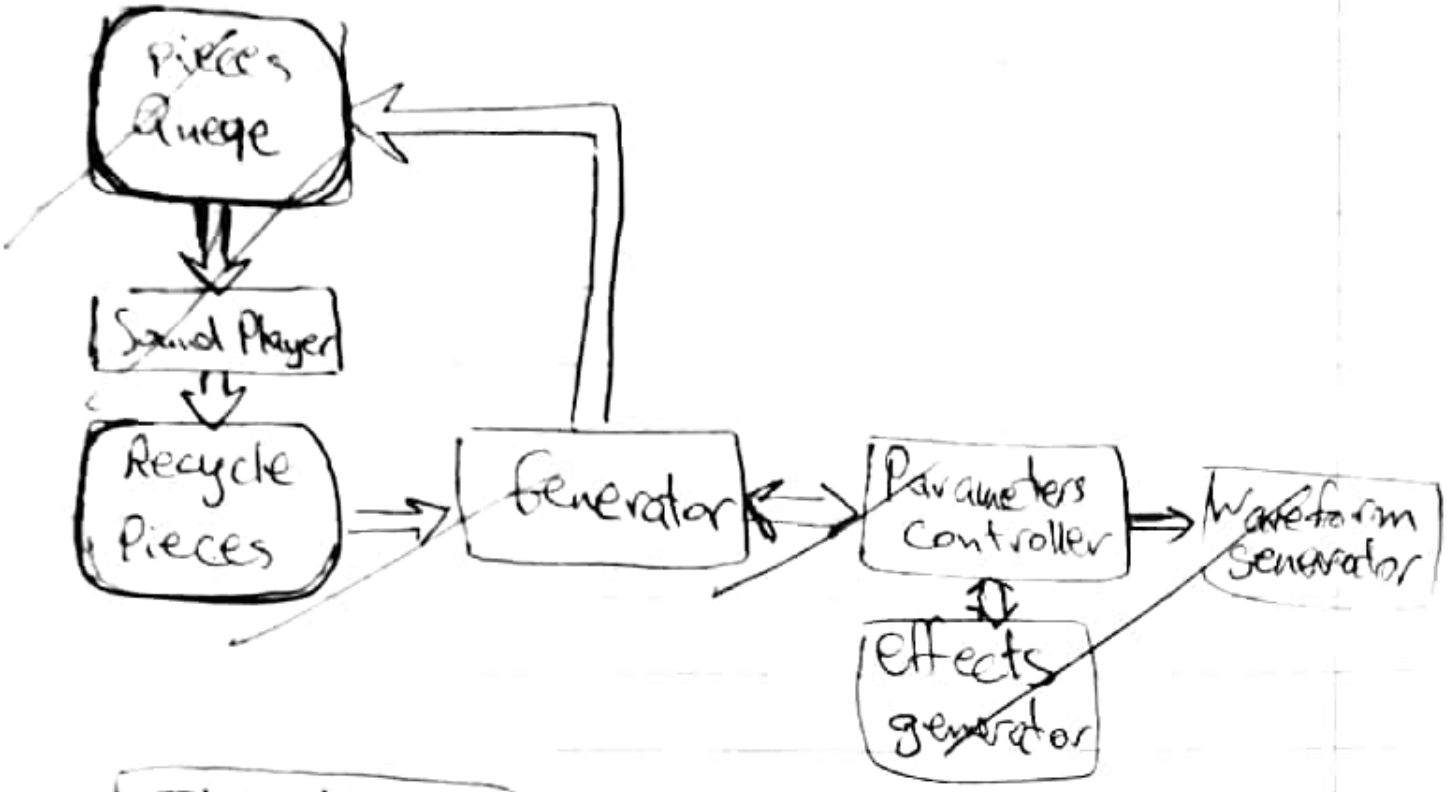
Note Generator

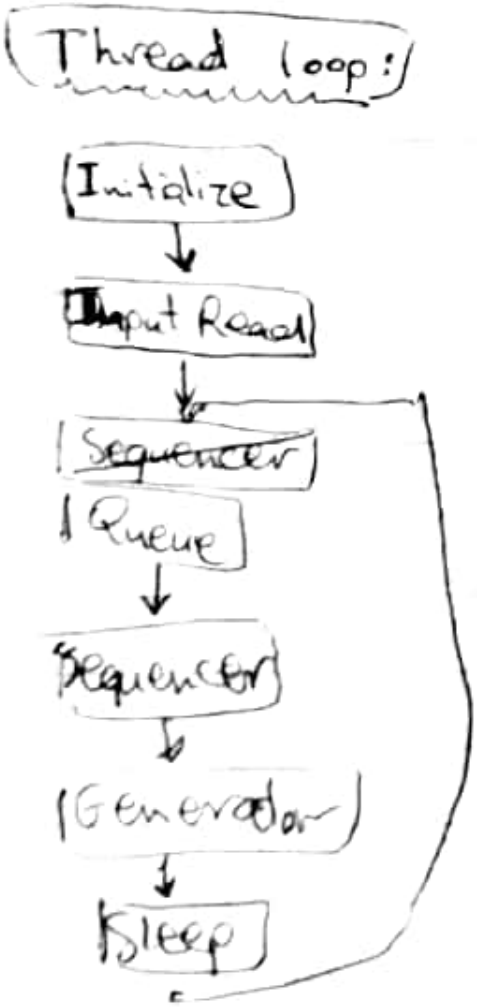
target frequency

target amplitude

effect

waveform





* Important note: waveforms should generate full cycles! Otherwise the noise implementation will have problems.

* The period must be always 0 at each new cycle.