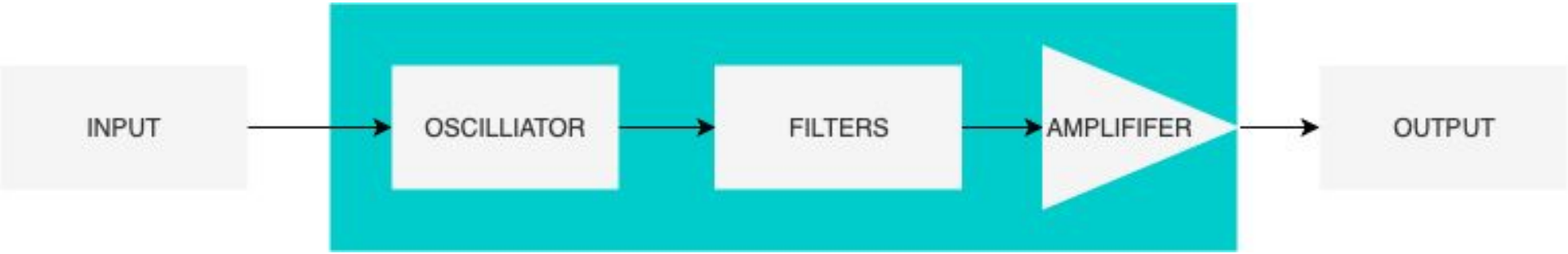
SYN·THE·SIS definition

Essentially, sound synthesis creates a digital audio waveform by using electronic hardware or software.

By adjusting the waveforms amplitude and frequency one can create novel sounds or recreate sounds of traditional instruments as well as natural sounds.

WORKFLOW DIAGRAM



FAUST

[**F**unctional **AU**dio **ST**ream]

Anna Eschenbacher, Jacky Lai, Phillip Daduna

What is FAUST?

- **F**unctional **AU**dio **ST**ream
- Functional programming language for sound synthesis and audio processing
- Founded in 2002 in Lyon by GRAME (Générateur de Ressources et d'Activités Musicales Exploratoires)

  APPLICATION: design of synthesizers, musical instruments, audio effects, etc.

  POSSIBLE RESULTS: audio plug-ins, standalone applications, smartphone/web apps

How does it work?

- Combination of functional programming and block diagram syntax
- Five binary composition operations are available to combine block-diagrams:
    - parallel (,)
    - sequential (:)
    - split (<:)
    - merge (:>)
    - recursion (~)
- The FAUST compiler translates FAUST code into C++

Application fields

FAUST can be used for…

designing synthesizers

creating **plug-ins** (e.g. for *LADSPA*, *VST*)

developing **applications** (e.g. for *ALSA*, *JACK*)

Examples