

Higher-Order reactive Programs

Haai -> Bytecode -> Haai Vm in Elixir

A Cluster Programming Environment

- BEAM (Bogdan's Erlang Abstract Machine)
- Haai virtual machine, programmed in Elixir
- Pizilla, Raspberry Pi cluster

Haai, a pure reactive programming language

- This is not an Embedded Domain Specific Language, eg: no lifting.
- Push-based, Haai updates signals in a glitch-free manner.
- Always loop, get new data in sources, cascade of signal updates to reach the sinks.

Musical reactors

- Sensors producing a stream of data.
- Haai reactors to handle those streams.
- Distribute the reactors over a cluster.

A cluster of Haai virtual machines

- One manager node to manage all others.
- Each node runs the Haai vm and is ready to receive a reaktor.
- Reaktors run independent from each other.

Interpreting Haai

- Haai compiles to bytecode (S-expression) to [elixir [nested lists]].
- GenServer to maintain state.
- Sources in, Sinks out.