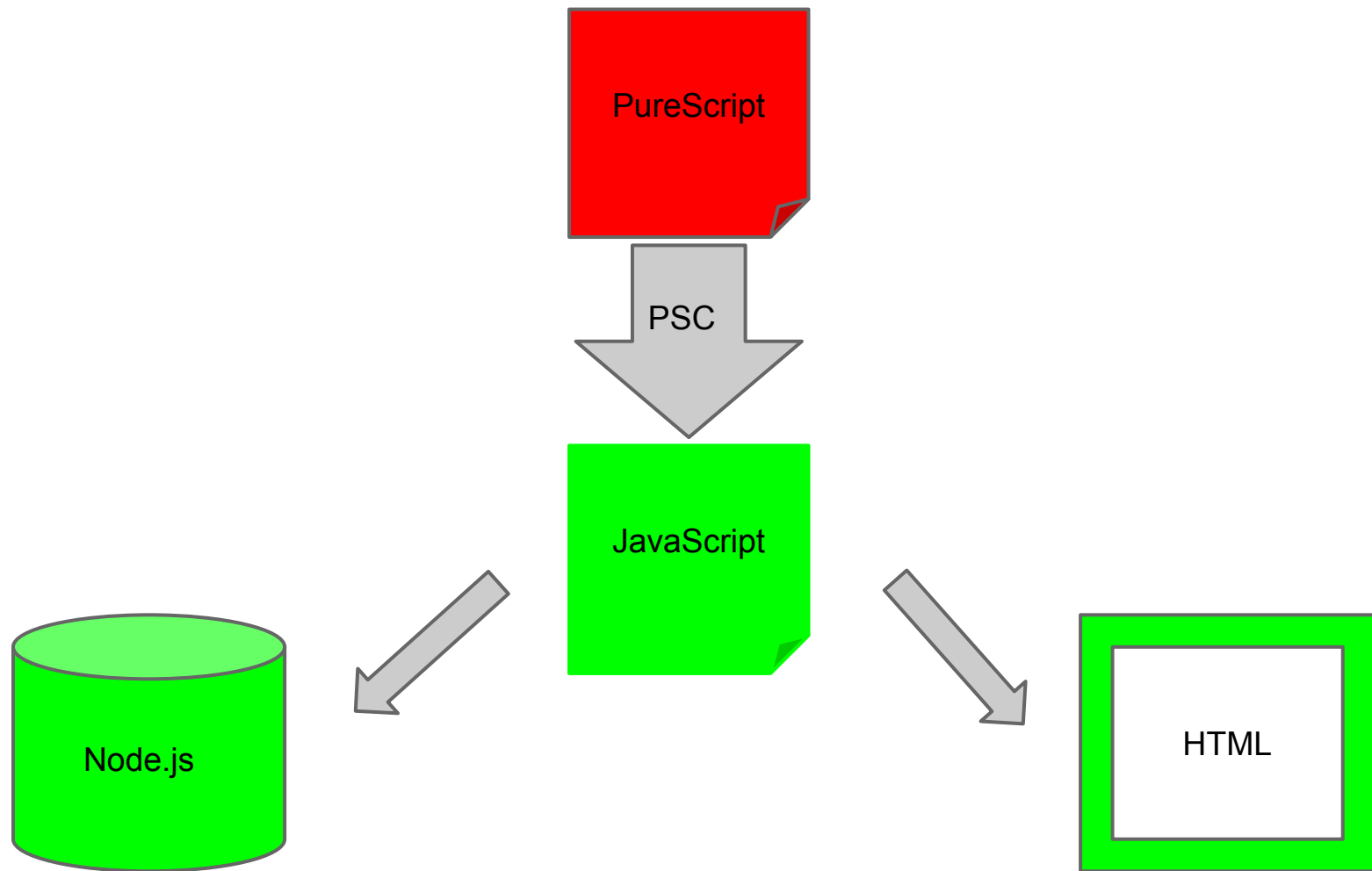# PureScript

Lars Brünjes

PureScript (2013?)

PureScript is a small strongly typed programming language that compiles to JavaScript.

Phil Freeman

Features

- Algebraic data types

- Pattern matching

- Type inference

- Type classes

- Higher kinded types

- Rank-N types

- Extensible records

- Extensible effects

- Modules

- Simple FFI

- No runtime system

- Human-readable output

PureScript vs. Haskell (I)

- npm/bower/pulp instead of cabal
- strict evaluation
- explicit `forall`
- Numbers, Boolean, (extensible) Records
- `Unit`, not `()`
- no special support for lists or tuples
- `Eff (...)` instead of `IO`

PureScript vs. Haskell (II)

- type classes
  - arrow direction,
  - named instances
  - no default members
- no array comprehensions
- no extensions
- export lists, operator definitions, `($)`,...

Mapping PS types to JS

- Number, String, Boolean   -> Number, String, Boolean
- Array a   -> Array
- Record   -> Object
- Function   -> Function (one argument!)
- Eff e a   -> Function (no argument)
- Unit   -> {}

Some Interesting Packages

- slamdata's [purescript-halogen](#)

  a declarative, type-safe UI library for PureScript

- bodil's [purescript-signal](#)

  a lightweight library heavily inspired by the Elm Signal implementation

- mpietrzak's [yesod-purescript](#)

  integration of PureScript into Yesod