

Drasil: A Confluence of Ideas

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Observations

Weaving

Drasil

- 1 We have good generative technologies

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- ② There are vastly different kinds of software

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- ② There are vastly different kinds of software
- ③ “Software” is made up of *many* artifacts
- ④ Programmer productivity is a real concern

Generative Technologies

Observations

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Drasil

Metaocaml and (typed) template Haskell.

- Linear Algebra. [GPCE 2005](#), [SCP 2011](#)
- Generative Geometry Kernel. [PEPM 2011](#)
- Generic Object-Oriented Language. [PEPM 2020](#)
- Hakaru. [PADL 2016](#), [FLOPS 2016](#), [ICFP 2019](#)
- Finally Tagless. [ASPLOS 2007](#), [JFP 2009](#)
- Generating Theories “for free”. [CICM 2020](#), [thesis 2021](#)

Kinds of Software

Observations

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Brasil

| Kind | Process |
|------|---------|
|------|---------|

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| Research Software | ??? |

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- installation docs
- design, requirements docs
- user docs
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Definition

Softifacts are different **representations** of (a subset of) some core knowledge.

Programmer Productivity

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More Observations:

- Long term

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input: integral over time of effort

output: integral over time of
(the sum over classes of users of
(satisfaction * knowledge-created))

productivity = output / input

- ① generative technologies
 - ② different kinds of software
 - ③ softifacts
 - ④ Programmer productivity
-

- 1+2 linux kernel, ATLAS, Spiral
- 1+3 literate programming, org-mode, autoconf, cmake, nix
- 1+4 design choices become softifacts. Viewpoints Institute work.
- 2.3 ????
- 2.4 javadoc, doxygen, man pages
- 3.4 README, tutorials, Manifest

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Go Live!