

Drasil: A Confluence of Ideas

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Observations

Weaving

Drasil

- 1 We have good generative technologies

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Drasil

- ① We have good generative technologies
- ② There are vastly different kinds of software

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- ③ “Software” is made up of *many* artifacts

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- ① We have good generative technologies
- ② There are vastly different kinds of software
- ③ “Software” is made up of *many* artifacts
- ④ Programmer productivity is a real concern

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

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Kind	Process
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Research Software	???

Softifacts

- code
- Makefile (build script / plan)
- installation docs
- design, requirements docs
- user docs
- tests
- theory manual

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Counterfactual: If the information wasn't somehow related, why is it all in the same place?

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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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More Observations:

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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!